MDTE No. 03 –

Exhibit FPR – 1

Notice of Intent

King Street Substation Improvement and 23kV Electric Line Extension Project

Groveland, Massachusetts

December 2003

Prepared for:

The Massachusetts Electric Company
55 Bearfoot Road
Northboro, Massachusetts 01532

Prepared by:

Earth Tech, Inc.
196 Baker Avenue
Concord, Massachusetts 01742

196 Baker Avenue, Concord, Massachusetts 01742

December 3, 2003

Mr. Michael Dempsey
Groveland Conservation Commission
183 Main Street
Groveland, MA 01834

Subject: **Notice of Intent Application – King Street Substation Improvements and 23Kv Line Extension Project**

Dear Mr. Dempsey,

Telephone
978.371.4000
Facsimile
978.371.2468

Please find enclosed a complete Notice of Intent Application for the above referenced project. This application also includes design details an additional information on the foundation work authorized by the Conservation Commission in November 2003.

All abutters within 300 feet (Groveland and Georgetown) have been notified. Copies of this application have been submitted to the Groveland Planning Board, Groveland Building Inspector, Groveland Board of Health, and Georgetown Conservation Commission. Both the Newburyport Daily News and the Lawrence Eagle Tribune will run legal advertisements five days prior to our scheduled hearing.

We look forward to meeting on December 8, 2003 to discuss the project with you. If the Commission wishes to have a site visit, we would be more than happy to have that prior to our scheduled December 8, 2003 hearing or thereafter as the Commission desires. If you have any further questions or comments please call me at 978-371-4216.

Very truly yours,

Earth Tech, Inc.

Timothy M. Sullivan
Environmental Scientist

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FORM 3

NOTICE OF INTENT
(UNDER THE MASSACHUSETTS WETLANDS PROTECTION ACT AND THE TOWN OF GROVELAND WETLANDS PROTECTION BYLAW)

- Appendix A – WPA Fee Transmittal Form
- Appendix B – Stormwater Management Form

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by DEP:

DEP File Number

Document Transaction Number

Groveland
City/Town

A. General Information

1. Project Location (**Note:** electronic filers will click on button for GIS locator):

King Street Substation and existing electric transmission ROW

Groveland — b. City/Town
01834 — c. Zip Code

Latitude and Longitude, if Known:
71'00'43.98" — d. Latitude
42'44'18.94" — e. Longitude

49 — f. Assessors Map/Plat Number
22 — g. Parcel /Lot Number

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

2. Applicant:

Paul — a. First Name
Richards — b. Last Name
Massachusetts Electric Company — c. Company
55 Bearfoot Road — d. Mailing Address
Northboro — e. City/Town
MA — f. State
01532 — g. Zip Code
4508-421-7549 — h. Phone Number
508-421-7520 — i. Fax Number
paul.richards@us.ngrid.com — j. Email address

3. Property owner (if different from applicant): ☐ Check if more than one owner

N/A — a. First Name
N/A — b. Last Name
N/A — c. Company
N/A — d. Mailing Address
N/A — e. City/Town
N/A — f. State
N/A — g. Zip Code
N/A — h. Phone Number
N/A — i. Fax Number
N/A — j. Email address

Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

4. Representative (if any):

Earth Tech — a. Firm
Timothy — b. Contact Person First Name
Sullivan — c. Contact Person Last Name
196 Baker Avenue — d. Mailing Address
Concord — e. City/Town
MA — f. State
01742 — g. Zip Code
978-371-4216 — h. Phone Number
978-371-2468 — i. Fax Number
Timothy.Sullivan@earthtech.com — j. Email address

☐ Select if you want to see Wetland Fee Transmittal Form.

5. Total WPA Fee Paid (from Appendix A, Wetland Fee Transmittal Form):

$250 — a. Total Fee Paid
$112.50 — b. State Fee Paid
$137.50 — c. City/Town Fee Paid

6. General Project Description:

Improvements to an existing substation and construction of a new 23kV electric line within an established right-of-way.

A. General Information (continued)

7. Project Type Checklist:

   a. ☐ Single Family Home

   b. ☐ Residential Subdivision

   c. ☐ Limited Project Driveway Crossing

   d. ☐ Commercial/Industrial

   e. ☐ Dock/Pier

   f. ☒ Utilities

   g. ☐ Coastal Engineering Structure

   h. ☐ Agriculture – cranberries, forestry

   i. ☐ Transportation

   j. ☐ Other

8. Property recorded at the Registry of Deeds for:

   Essex County - South
   a. County
   4367
   b. Book
   546
   c. Page Number
   N/A
   d. Certificate # (if registered land)

9. Buffer Zone Only

   Is the project located only in the Buffer Zone of a bordering vegetated wetland, inland bank, or coastal bank, coastal beach, coastal dune, or salt marsh?

   a. ☐ Yes — If yes, skip to Section C.

   b. ☒ No — If no, check the resource areas to be affected by this project, directly below.

B. Resource Area Effects

1. Inland Resource Areas

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Bank	N/A (1. linear feet)	N/A (2. linear feet)
b. ☒ Bordering Vegetated Wetland	200 (all temporary) (1. square feet)	None proposed (2. square feet)
c. ☐ Land Under Waterbodies and Waterways	N/A (1. square feet) N/A (3. cubic yards dredged)	N/A (2. square feet)
d. ☐ Bordering Land Subject to Flooding	N/A (1. square feet) N/A (3. cubic feet of flood storage lost)	N/A (2. square feet) N/A (4. cubic feet of flood storage replaced)
e. ☐ Isolated Land Subject to Flooding	N/A (1. square feet) N/A (2. cubic feet of flood storage lost)	N/A (3. cubic feet of flood storage replaced)

f. ☐ Riverfront area

1. Name of Waterway (if available):

N/A

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project:

N/A
Square Feet

4. Proposed alteration of the Riverfront Area:

a. Total Square Feet	b. Square Feet within 100 ft.	c. Square Feet between 100 ft. and 200 ft.
N/A	N/A	N/A

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☒ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

B. Resource Area Effects (continued)

2. Coastal Resource Areas:

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	N/A (1. Square feet)	
	N/A (2. Cubic yards dredged)	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☒ Coastal Beaches	N/A (1. Square feet)	N/A (2. Cubic yards beach nourishment)
e. ☐ Coastal Dunes	N/A (1. Square feet)	N/A (2. Cubic yards dune nourishment)
f. ☐ Coastal Banks	**N/A** (1. Linear feet)	
g. ☐ Rocky Intertidal Shores	N/A (1. Square feet)	
h. ☐ Salt Marshes	N/A (1. Square feet)	N/A (2. Sq ft restoration, rehab., or creation)
i. ☐ Land Under Salt Ponds	N/A (1. Square feet)	
	N/A (2. Cubic yards dredged)	
j. ☐ Land Containing Shellfish	N/A (1. Square feet)	N/A (2. Square feet restoration, rehab.)
k. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	N/A (1. Cubic yards dredged)	
l. ☐ Land Subject to Coastal Storm Flowage	N/A (1. Square feet)	

3. Limited Project:

Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 or 310 CMR 10.53?

a. ☒ Yes ☐ No If yes, describe which limited project applies to this project:

10.53 (3)(d) - construction of electric utility line
b. Limited Project

C. Bordering Vegetated Wetland Delineation Methodology

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Check all methods used to delineate the Bordering Vegetated Wetland (BVW) boundary:

1. ☐ Final Order of Resource Area Delineation issued by Conservation Commission or DEP (attached)
2. ☒ DEP BVW Field Data Form (attached)
3. ☐ Final Determination of Applicability issued by Conservation Commission or DEP (attached)
4. ☒ Other Methods for Determining the BVW Boundary (attach documentation):
   - a. ☒ 50% or more wetland indicator plants
   - b. ☒ Saturated/inundated conditions exist
   - c. ☒ Groundwater indicators
   - d. ☒ Direct observation
   - e. ☒ Hydric soil indicators
   - f. ☒ Credible evidence of conditions prior to disturbance

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

D. Other Applicable Standards and Requirements

1. Is any portion of the proposed project located in estimated habitat as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program?

   a. ☒ Yes ☐ No

   If yes, include proof of mailing or hand delivery of NOI to:
   Natural Heritage and Endangered Species Program
   Division of Fisheries and Wildlife
   Route 135, North Drive
   Westborough, MA 01581

   MassGIS 2003
   b. Date of Map

2. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

   ☐ Yes ☒ No

   If yes, include proof of mailing or hand delivery of NOI to:
   Massachusetts Division of Marine Fisheries
   251 Causeway Street, Suite 400
   Boston, MA 02114

   ☒ Not applicable – project is in inland resource area only

D. Other Applicable Standards and Requirements (continued)

3. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or DEP Website for ACEC locations). **Note:** electronic filers click on Website.

N/A
b. ACEC

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

a. ☐ Yes ☒ No

5. Is any activity within any Resource Area or Buffer Zone exempt from performance standards of the wetlands regulations, 310 CMR 10.00.

a. ☐ Yes ☒ No If yes, describe which exemption applies to this project:

N/A
b. Exemption

6. Is this project subject to the DEP Stormwater Policy? a. ☐ Yes ☒ No

b. If yes, stormwater management measures are required. Applicants should complete Appendix B: Stormwater Management Form and submit it with this form.

c. If no, explain why the project is exempt:

The project will not create a significant amount of new impervious surface.

E. Additional Information

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)

2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.

E. Additional Information (continued)

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

3. ☒ Other material identifying and explaining the determination of resource area boundaries shown on plans (e.g., a DEP BVW Field Data Form).
4. ☐ List the titles and dates for all plans and other materials submitted with this NOI.
5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.
6. ☒ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
8. ☒ Attach Appendix A, see next page.
9. ☒ Attach Appendix B, if needed.

F. Fees

The fees for work proposed under each Notice of Intent must be calculated and submitted to the Conservation Commission and the Department (see Instructions and Appendix B. Wetland Fee Transmittal Form).

No fee shall be assessed for projects of the federal government, the Department, or cities and towns of the Commonwealth.

Applicants must submit the following information (in addition to pages 1 and 2 of Appendix B) to confirm fee payment:

582	12/2/2003
1. Municipal Check Number	2. Check date
583	12/2/2003
3. State Check Number	4. Check date
F. Paul	Richards
5. Payor name on check: First Name	6. Payor name on check: Last Name

G. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

Paul Richards — Signature of Applicant — Date: 12/2/03

Signature of Property Owner (if different) — Date

Signature of Representative (if any) — Date: 12/3/03

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents; two copies of pages 1 and 2 of Appendix B; and the city/town fee payment must be sent to the Conservation Commission by certified mail or hand delivery.

For DEP:
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents; one copy of pages 1 and 2 of Appendix B; and a copy of the state fee payment must be sent to the DEP Regional Office (see Instructions) by certified mail or hand delivery. (E-filers may submit these electronically.)

Other:
If the applicant has checked the "yes" box in any part of Section D, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

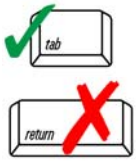
The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Appendix A – Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Applicant:

Paul	Richards	Massachusetts Electric Company
a. First Name	b. Last Name	

55 Bearfoot Road
d. Mailing Address

Northboro	MA	01532
e. City/Town	f. State	g. Zip Code

508-421-7549
h. Phone Number

2. Property Owner (if different):

N/A	N/A	N/A
a. First Name	b. Last Name	c. Company

N/A
d. Mailing Address

N/A	N/A	N/A
e. City/Town	f. State	g. Zip Code

N/A
h. Phone Number

3. Project Location:

King Street Substation and the existing transmission right-of-way.	Groveland
	b. City/Town

To calculate filing fees, refer to the category fee list and examples in Section D of this form.

B. Fees

Notice of Intent (Form 3) or Abbreviated Notice of Intent (Form 4):

The fee should be calculated using the following six-step process and worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract $12.50. To calculate the city/town share of the fee, divide the total fee in half and add $12.50.

WPA Appendix A – Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 2	1	$250	$250

Step 5/Total Project Fee: $250

Step 6/Fee Payments:

Total Project Fee: $250 — a. Total fee from Step 5

State share of filing fee: $112.50 — b. 1/2 total fee **less $**12.50

City/Town share of filling fee: $137.50 — c. 1/2 total fee **plus** $12.50

Abbreviated Notice of Resource Area Delineation (Form 4A):

The fee is calculated as follows (check applicable project type):

1. ☐ single family house project — a. feet of BVW _____ x $1.00 = _____ — N/A — b. Total fee not to exceed $1,000
2. ☐ all other projects — a. feet of BVW _____ x $1.00 = _____ — N/A — b. Total fee not to exceed $1,000

State share of filing fee: N/A — 3. 1/2 of total fee **less** $12.50

City/Town share of filing fee: N/A — 4. 1/2 of total fee **plus** $12.50

WPA Appendix A – Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent, Abbreviated Notice of Intent, or Abbreviated Notice of Resource Area Delineation; a **copy** of pages 1 and 2 of this form; and the city/town fee payment.

c.) **To DEP Regional Office** (see Instructions): Send the Notice of Intent, Abbreviated Notice of Intent, or Abbreviated Notice of Resource Area Delineation; a **copy** of pages 1 and 2 of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

F. PAUL RICHARDS
JOAN E. RICHARDS
22 ESTY ROAD PH. 978-464-0279
PRINCETON, MA 01541

583

53-8716/2113

Date Dec 2, 2003

Pay to the Order of MA Dept of Environmental Protection $ 112.50

One hundred and twelve 50/100 Dollars

Security features are included. Details on back.

CENTRAL
ONE FEDERAL CREDIT UNION

For Mass Elec wetland filing fee

Paul Richards

MP

⑆211387169⑆00000261541⑈ 0583

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F. PAUL RICHARDS
JOAN E. RICHARDS
22 ESTY ROAD PH. 978-464-0279
PRINCETON, MA 01541

582

53-8716/2113

Date Dec 2, 2003

Pay to the Order of Town of Groveland $ 137.50

One hundred and thirty-seven 50/100 Dollars

Security features are included. Details on back.

CENTRAL
ONE FEDERAL CREDIT UNION

For Mass Elec wetland filing fee

Paul Richards

MP

⑆211387169⑆00000261541⑈ 0582

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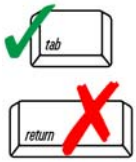
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Appendix B – Stormwater Management Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Property Information

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. The proposed project is:

   a. New development ☐ Yes ☒ No

   b. Redevelopment ☐ Yes ☒ No

   c. Combination ☐ Yes ☒ No (If yes, distinguish redevelopment components from new development components on plans).

2. Stormwater runoff to be treated for water quality is based on the following calculations:

   a. ☐ 1 inch of runoff x total impervious area of post-development site for discharge to **critical areas** (Outstanding Resource Waters, recharge areas of public water supplies, shellfish growing areas, swimming beaches, cold water fisheries).

   b. ☐ 0.5 inches of runoff x total impervious area of post-development site for other resource areas.

Note:
This November 2000 version of the Stormwater Management Form supersedes earlier versions including those contained in DEP's Stormwater Handbooks.

B. Stormwater Management Standards

DEP's Stormwater Management Policy (March 1997) includes nine standards that are listed on the following pages. Check the appropriate boxes for each standard and provide documentation and additional information when applicable.

Standard #1: Untreated stormwater

a. ☐ The project is designed so that new stormwater point discharges do not discharge untreated stormwater into, or cause erosion to, wetlands and waters.

Standard #2: Post-development peak discharges rates

a. ☐ Not applicable – project site contains waters subject to tidal action.

Post-development peak discharge does not exceed pre-development rates on the site at the point of discharge or downgradient property boundary for the 2-yr, 10-yr, and 100-yr, 24-hr storm.

b. ☐ Without stormwater controls

c. ☐ With stormwater controls designed for the 2-yr, and 10-yr storm, 24-hr storm.

d. ☐ The project as designed will not increase off-site flooding impacts from the 100-yr, 24-hr storm.

B. Stormwater Management Standards (cont.)

Standard #3: Recharge to groundwater

Amount of impervious area (sq. ft.) to be infiltrated: N/A
a. square feet

Volume to be recharged is based on:

b. ☐ The following Natural Resources Conservation Service hydrologic soils groups (e.g. A, B, C, D, or UA) or any combination of groups:

N/A 1. % of impervious area	N/A 2. Hydrologic soil group	N/A 3. % of impervious area	N/A 4. Hydrologic soil group
N/A 5. % of impervious area	N/A 6. Hydrologic soil group	N/A 7. % of impervious area	N/A 8. Hydrologic soil group

c. ☐ Site specific pre-development conditions: N/A (1. Recharge rate) N/A (2. Volume)

d. Describe how the calculations were determined:

N/A

e. List each BMP or nonstructural measure used to meet Standard #3 (e.g. dry well, infiltration trench).

N/A

Does the annual groundwater recharge for the post-development site approximate the annual recharge from existing site conditions?

f. ☐ Yes ☐ No

Standard #4: 80% TSS Removal

a. ☐ The proposed stormwater management system will remove 80% of the post-development site's average annual Total Suspended Solids (TSS) load.

b. Identify the BMP's proposed for the project and describe how the 80% TSS removal will be achieved.

N/A

B. Stormwater Management Standards (cont.)

c. If the project is redevelopment, explain how much TSS will be removed and briefly explain why 80% removal cannot be achieved.

N/A

Standard #5: Higher potential pollutant loads

See Stormwater Policy Handbook Vol. I, page I-23, for land uses of high pollutant loading (see Instructions).

Does the project site contain land uses with higher potential pollutant loads

a. ☐ Yes ☐ No b. If yes, describe land uses:

N/A

c. Identify the BMPs selected to treat stormwater runoff. If infiltration measures are proposed, describe the pretreatment. (Note: If the area of higher potential pollutant loading is upgradient of a critical area, infiltration is not allowed.)

N/A

Standard #6: Protection of critical areas

See Stormwater Policy Handbook Vol. I, page I -25, for critical areas (see Instructions).

Will the project discharge to or affect a critical area?

a. ☐ Yes ☐ No b. If yes, describe areas:

N/A

c. Identify the BMPs selected for stormwater discharges in these areas and describe how BMPs meet restrictions listed on pages I-27 and I-28 of the Stormwater Policy Handbook – Vol. I:

N/A

B. Stormwater Management Standards (cont.)

Note: components of redevelopment projects which plan to develop previously undeveloped areas do not fall under the scope of Standard 7.

Standard #7: Redevelopment projects

Is the proposed activity a redevelopment project?

a. ☐ Yes ☐ No b. If yes, the following stormwater management standards have been met:

N/A

c. The following stormwater standards have not been met for the following reasons:

N/A

d. ☐ The proposed project will reduce the annual pollutant load on the site with new or improved stormwater control.

Standard #8: Erosion/sediment control

a. ☒ Erosion and sediment controls are incorporated into the project design to prevent erosion, control sediments, and stabilize exposed soils during construction or land disturbance.

Standard #9: Operation/maintenance plan

a. ☐ An operation and maintenance plan for the post-development stormwater controls have been developed. The plan includes ownership of the stormwater BMPs, parties responsible for operation and maintenance, schedule for inspection and maintenance, routine and long-term maintenance responsibilities, and provision for appropriate access and maintenance easements extending from a public right-of-way to the stormwater controls.

N/A	
b. Plan/Title	c. Date
N/A	
d. Plan/Title	e. Date

C. Submittal Requirements

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

DEP recommends that applicants submit this form, as well as, supporting documentation and plans, with the Notice of Intent to provide stormwater management information for Commission review consistent with the wetland regulations (310 CMR 10.05 (6)(b)) and DEP's Stormwater Management Policy (March 1997). If a particular stormwater management standard cannot be met, information should be provided to demonstrate how equivalent water quality and water quantity protection will be provided. DEP encourages engineers to use this form to certify that the project meets the stormwater management standards as well as acceptable engineering standards. For more information, consult the Stormwater Management Policy.

D. Signatures

F. Paul Richards
Applicant Name

12/2/2003
Date

F. Paul Richards
Signature

Timothy M. Sullivan
Representative (if any)

12/2/2003
Date

Timothy M. Sullivan
Signature

ATTACHMENT A

PROJECT NARRATIVE

ATTACHMENT A – PROJECT NARRATIVE

1.0 Introduction

On behalf of the Massachusetts Electric Company this Notice of Intent (NOI) is being filed by Earth Tech, Inc. (Earth Tech) pursuant to the Massachusetts Wetlands Protection Act (MWPA, M.G.L. Chapter 131, Section 40), it's implementing regulations (310 CMR 10.00), and the Town of Groveland Wetlands Protection Bylaw (Section 8-19 of the Groveland Code). Portions of the work proposed under this filing will take place within Bordering Vegetated Wetlands (BVW) and the 100-foot buffer zone to Bordering Vegetated Wetland (buffer zone).

The activities proposed in this filing coincide with the upgrades to the electrical transmission and distribution system on the north shore. These upgrades are intended to help increase supply and reliability of service to residents in six communities. This project includes the following three components:

- Installation of concrete foundations and steel work (previously approved under an Emergency Certification in November 2003),
- Expansion of the existing control house and substation fence, and
- Installation of a 23kV electric line section from the King Street Substation to the Georgetown line (at Evergreen Lane).

Limited Project Status

The 23kV line portion of the project qualifies, for the limited project status. Specifically, the limited project is described as:

"The construction, reconstruction, operation, and maintenance of underground and overhead public utilities, such as electrical distribution or transmission lines, or communication, sewer, water and natural gas lines, … [310 CMR 10.53 (3)(d)]."

Although this project qualifies as a limited project, with the Commission's consent, all applicable performance standards will be met.

The major component of this project involves the installation of an 18-structure 23kV line from the substation to the Georgetown line. The new line will then continue to the Mill Street Junction in Georgetown. The route

of the new line will follow an existing and cleared electric line right-of-way (ROW).

In order to accommodate the equipment needed to monitor and control the new line, Massachusetts Electric will need to expand the existing control house at the King Street Substation. Due to the configuration of the existing control house, electrical components, and other features, the only feasible option is to expand the fence line of the substation accordingly.

In November 2003, Massachusetts Electric was given permission to install three new foundations under an Emergency Certification. This work included the installation of three 5' x 5' concrete slabs and associated erosion controls. This limited works was completed prior to the November 21 deadline. A letter and photo-documentation has been provided separately by Paul Richards of National Grid.

This NOI includes a description of the proposed work, design details and construction methods that will be implemented in order to minimize potential permanent impacts to wetland resource areas, and proposed mitigation and minimization measures.

2.0 Existing Conditions

2.1 Existing Site Conditions

The current project will take place in and adjacent to the substation and within the existing electric transmission right-of-way (ROW) from the substation to the Georgetown line. Land use adjacent to the substation consists of fill areas associated with the substation and various power line ROWs. Land use along the ROW consists of pasture, early successional upland areas, residential development, and scrub-shrub wetland

2.2 Resource Area Delineation Procedure

Earth Tech wetland scientists delineated inland wetland areas in the vicinity of the proposed work in accordance with the Wetlands Regulations, Department of Environmental Protection (DEP) guidance for Delineating Bordering Vegetated Wetland (Policy 95-1), and the Army Corps of Engineers (ACOE) Wetland Delineation Manual (1987). These methods include environmental characteristics indicative of wetland resource areas such as hydrophytic vegetation, hydric soils, and hydrology.

A review of the following resources was conducted prior to the site investigation.

- United States Geological Survey (USGS) topographic map (shown in Figure 1). Indicates the project route crosses 1 intermittent stream.

- United States Department of Interior Fish and Wildlife Service National Wetland Inventory (NWI) map.

- United States Department of Interior Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) (Community Panel # 250083 October 1, 1980. No work will occur in an area designated as 100-year floodplain (shown in Figure 2)

- Natural Resource Conservation Service (NRCS) mapping of soil characteristics for the study area.

- Priority Habitats of Rare Species and/or Estimated Habitats of Rare Wildlife and Certified Vernal Pools. Reference to the Massachusetts Natural Heritage and Endangered Species Program Natural Heritage Atlas (MNH&ESP) (2003 MassGIS Edition) revealed that a portion of the project activities are within areas designated as Priority or Estimated Habitat for Rare, Threatened, or Species of Special Concern (shown in Figure 3).

- A review of the Executive Office of Environmental Affairs (EOEA)-Areas of Critical Environmental Concern (ACEC) program guide showed that the proposed project area is not within any ACEC.

2.3 Inland Wetland Resource Areas

Earth Tech wetland scientists delineated thirteen vegetated wetlands in the proposed project area. The thirteen resource areas were flagged in the field as wetlands ET1 to ET13. The boundaries of these resource areas, as well as the associated buffer zones are shown in Attachment E – Project Plans. The following is a description of each wetland.

Wetland Area ET1

Wetland area ET1 is located just south of the substation. The wetland is an emergent BVW associated with an intermittent stream. Water enters this wetland from wetland ET2 via a culvert at flag ET1-4 and groundwater likely seeps from the slope to the west. Wetland flags ET1-1 to ET1-5 define the northern boundary of the wetland and flags ET1-6 to ET1-11 define the southern boundary of the wetland.

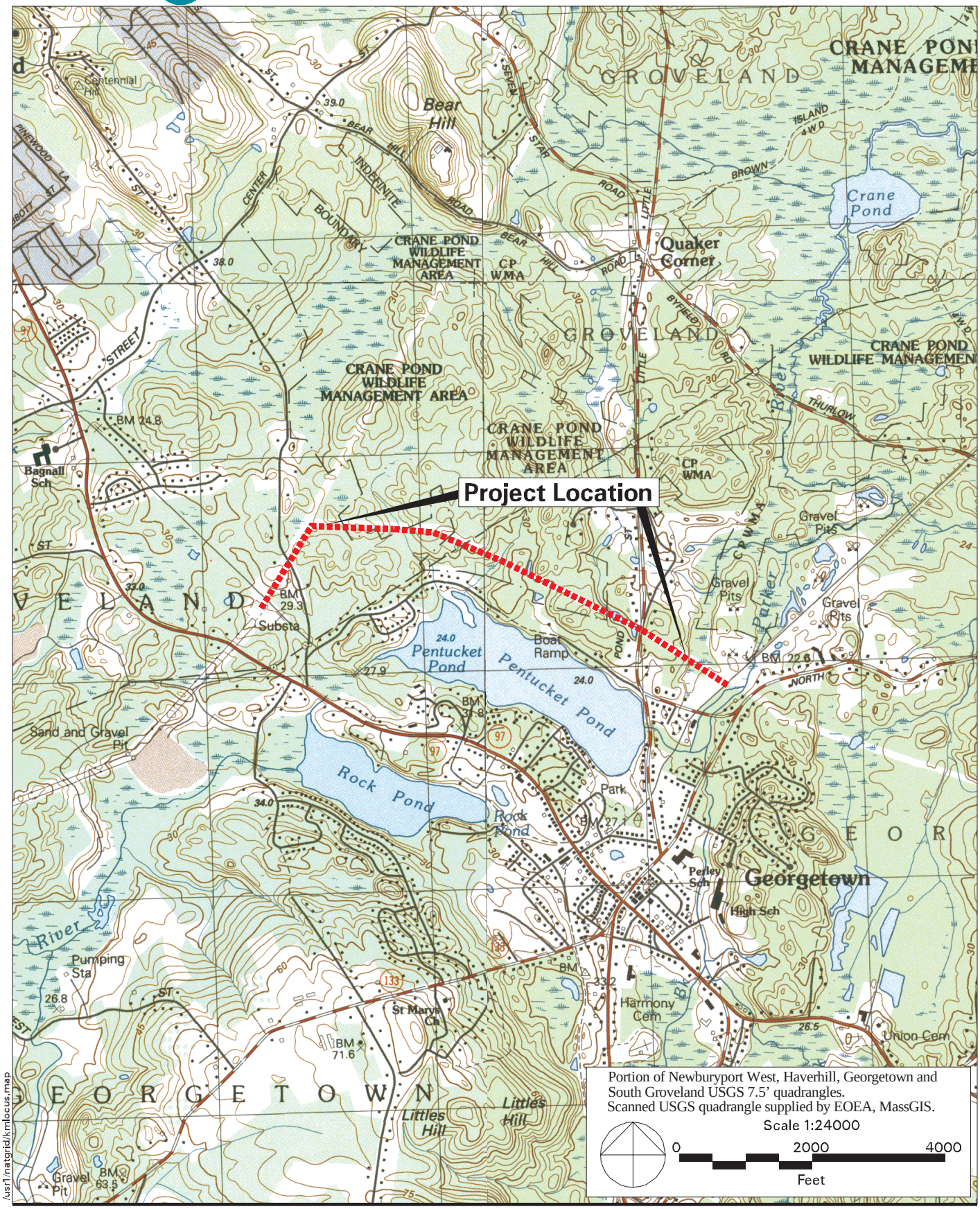
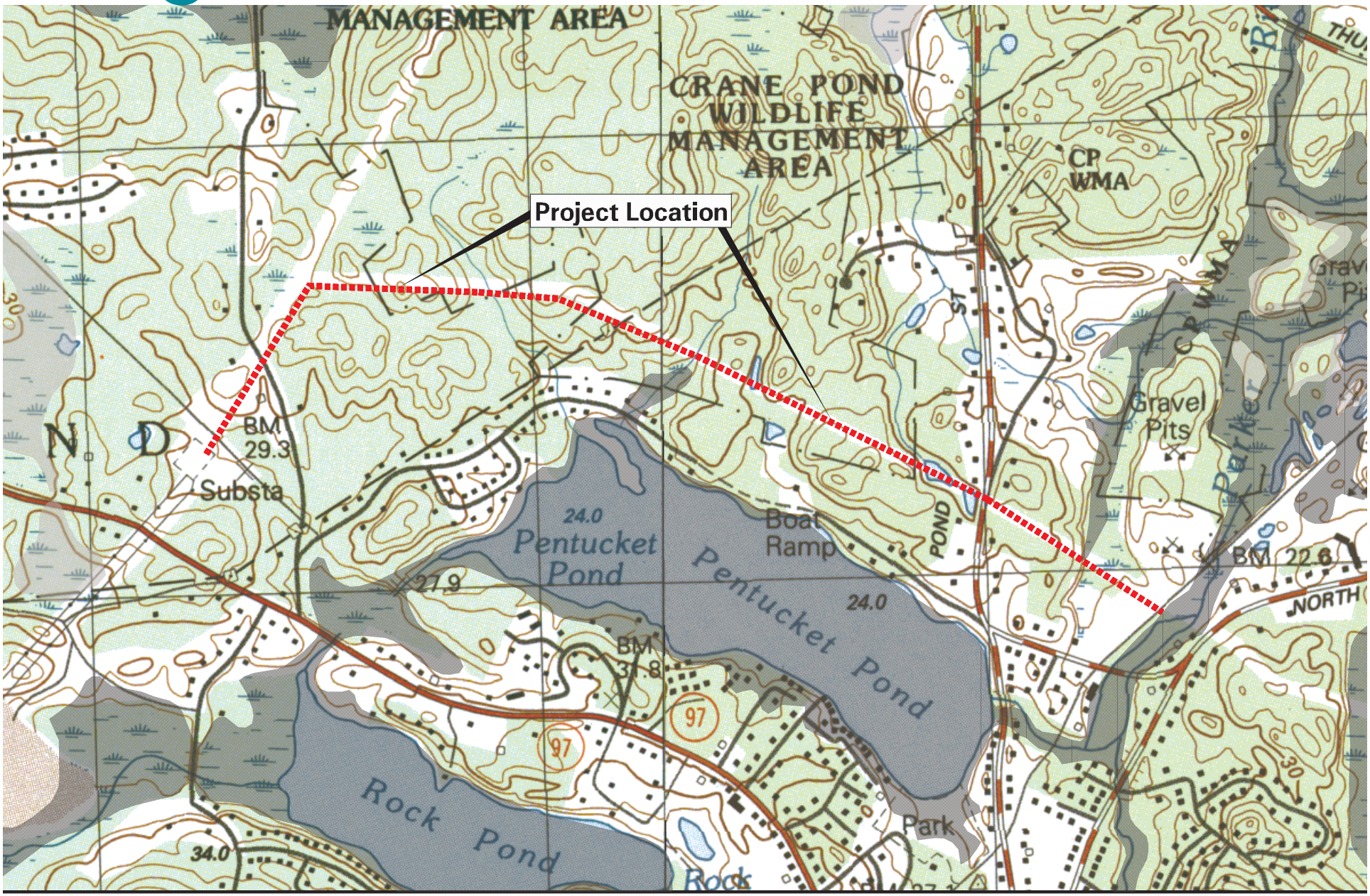


Figure 1
Site Locus Map



Date: 02 Dec 03 12:17:38 Tuesday
/usr1/natgrid/kmflood.map

100 - Year Flood Zone

500 - Year Flood Zone

Source: FEMA Q3 Digital FIRM data supplied by EOEA, MassGIS.

Figure 2
FEMA Flood Plain Map

Scale 1:12000
0 1000 2000
Feet

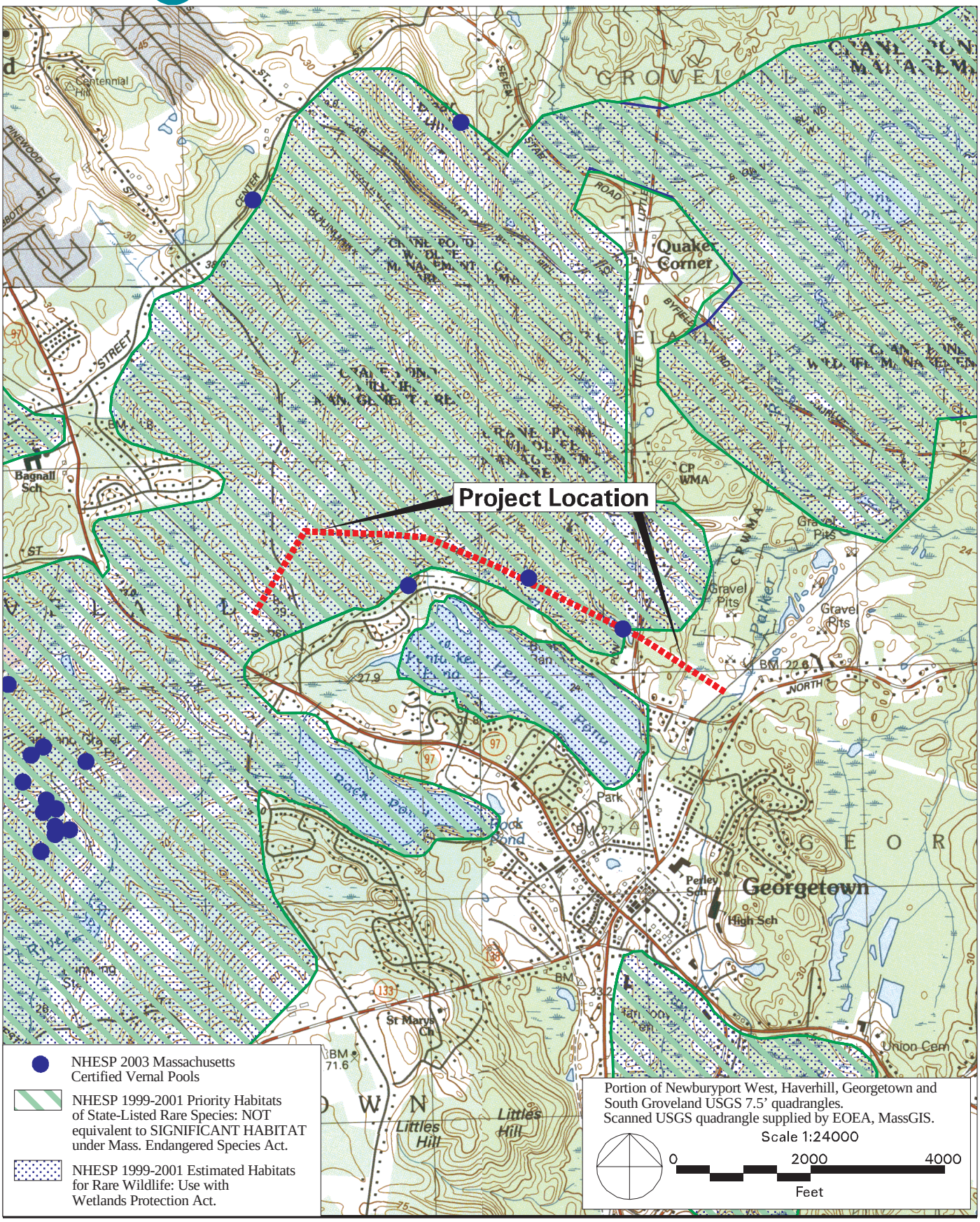


Figure 3
NHESP Habitat Map

Wetland Area ET2

Wetland area ET2 is located just outside the western fence of the substation. The wetland is a manmade drainage channel. The channel is approximately 3 feet wide and 1 foot deep. The channel collects overland flow and groundwater seepage from the nearby steep slopes. Wetland ET2 connects to wetland 1 via a 12-inch metal culvert. Wetland flags ET2-1 to ET2-7 define the eastern boundary of the wetland and flags ET2-8 to ET2-18 define the southern boundary of the wetland.

Wetland ET2 does not maintain a direct connection to any upstream BVW; therefore wetland ET2 does not meet the criteria of a stream as defined in the WPA.

Wetland Area ET3

Wetland area ET3 is located just east of the substation. The wetland is an emergent/forested BVW that is connected to a large wetland system via a culvert under an abandoned railroad grade. Wetland ET3 is also connected to wetland ET1 via a culvert under the Substation access road. Wetland flags ET3-1 to ET3-22 define the wetland boundary adjacent to the project area. Wetland ET3 is connected to Wetland ET5 via a culvert at flag ET3-10.

Wetland Area ET4

Wetland area ET4 is located just west of the substation. The wetland is a side slope seep and low-lying area where water collects from nearby hills and the substation. Wetland flags ET4-1 to ET4-19 define the boundary of the wetland.

Wetland ET4 does not maintain a direct connection to any stream, river, or pond; therefore wetland ET4 does not meet the criteria of a stream as defined in the WPA.

Wetland ET5

Wetland area ET5 is located just north of the abandoned railroad ROW to the north of the substation. Within the cleared ROW, the wetland is a scrub-shrub BVW. Off ROW this wetland is an expansive forested wetland associated with an unnamed intermittent stream. Wetland flags ET5-1 to ET5-10 define the southern boundary of the wetland and flags ET5C-1 to ET5C-13 define the southern boundary of the wetland.

The portions of wetland ET5 delineated with series 5A and 5B are well over 100 feet from any of the work proposed in this filing.

Wetland ET6

Wetland area 6 is located on the east side of the ROW, just south of King Street. This area is a low-lying area where runoff collects. The wetland extends well off the ROW. Wetland flags ET6-1 to ET6-7 define the western boundary of the wetland.

Wetland ET6 does not maintain a direct connection to any upstream river, stream, or pond. Therefore wetland ET6 does not meet the criteria of a stream as defined in the WPA.

Wetland ET7

Wetland area ET7 is located just north of King Street. The wetland is an expansive scrub-shrub BVW located within the cleared ROW. Wetland flags ET7-1 to ET7-26 define the southern and eastern boundaries of the wetland.

Wetland ET8

Wetland area ET8 is located in the center of the 2319 ROW just as it leaves the large 345Kv line ROW. This wetland is a small isolated basin. Wetland flags ET8-1 to ET8-6 define the boundary of this wetland.

Wetland ET8 does not maintain a direct connection to any upstream river, stream, or pond. Therefore wetland ET8 does not meet the criteria of a stream as defined in the WPA.

Wetland ET9

Wetland area ET9 is located on the south side of the 2319 ROW between the junction of the large 345Kv line ROW and Evergreen Lane. This wetland is a small isolated basin. Wetland flags ET9-1 to ET9-13 define the boundary of this wetland.

Wetland ET9 does not maintain a direct connection to any upstream river, stream, or pond. Therefore wetland ET9 does not meet the criteria of a stream as defined in the WPA.

Wetland ET10

Wetland area ET10 is located in the center of the 2319 ROW just as it leaves the large 345Kv line ROW. This wetland is a small isolated basin. Wetland flags ET10-1 to ET10-4 define the boundary of this wetland.

Wetland ET10 does not maintain a direct connection to any upstream river, stream, or pond. Therefore wetland ET10 does not meet the criteria of a stream as defined in the WPA.

Wetland ET11

Wetland area ET11 is located just east of the 2319 line crossing at Evergreen Lane. This wetland is scrub-shrub area associated with an intermittent stream. Wetland flags ET11-1 to ET11-9 establish the western boundary of the wetland, and ET11A-1 to ET11A-10 establish the eastern boundary of the wetland.

Wetland ET12

Wetland area ET12 is located along the southern edge of the 2319 line ROW. This wetland is seasonally flooded scrub-shrub wetland that continues off ROW. It is assumed that the wetland connects to an offsite stream, river or pond. Wetland flags ET12-1 to ET12-19 establish the boundary of this wetland.

Wetland ET13

Wetland area ET13 is located at the Groveland-Georgetown town line. This wetland is an intermittent stream channel with an associated scrub-shrub swamp. Wetland flags ET13-1 to ET13-24 establish the boundary of this wetland.

Additional information on dominant vegetation, hydrology, and soil characteristics can be found on the DEP BVW Forms included as Attachment B. Table 2-1 lists the resource areas associated with each wetland.

Table 2-1 Wetland Area Jurisdictions

Wetland Area	Resource Areas	Jurisdiction
Wetland ET1*	BVW	WPA/Groveland Bylaw
Wetland ET2*	Bank	Groveland Bylaw
Wetland ET3*	BVW	WPA/Groveland Bylaw
Wetland ET4	IVW	Groveland Bylaw
Wetland ET5	BVW	WPA/Groveland Bylaw

Wetland Area	Resource Areas	Jurisdiction
Wetland ET6	IVW	Groveland Bylaw
Wetland ET7	BVW	WPA/Groveland Bylaw
Wetland ET8	IVW	Groveland Bylaw
Wetland ET9	IVW	Groveland Bylaw
Wetland ET10	IVW	Groveland Bylaw
Wetland ET11	BVW	WPA/Groveland Bylaw
Wetland ET12	BVW	WPA/Groveland Bylaw
Wetland ET13	BVW	WPA/Groveland Bylaw

*These wetland boundaries were previously reviewed and approved by the Groveland Conservation Commission as part of the King Street Substation Improvement Project (Filed May 2003)

2.4 Riverfront Area (310 CMR 10.58)

The most current USGS Quadrangle shows one unnamed streams crossing the ROW within what is delineated as Wetland ET11. This stream is shown as intermittent. The intermittent stream designation is further supported by the USGS Streamstats Report included in Attachment C – Agency Correspondence. Therefore, none of the project activities take place within an area designated as Riverfront Area.

3.0 Proposed Work Description

3.1 Proposed Work

Concrete Foundations and Steel Work

In November 2003, three 5’ x 5’ concrete foundations were installed on the west side of the substation. These foundations were installed using conventional construction equipment and the work has already been completed. Structural steel and wirework continues but involves no ground disturbance.

Control House Substation Fence Line Expansion

In order to provide space at the Substation for the controls needed for the new 2373 line, Massachusetts Electric is proposing to lengthen the existing

control house by 12 feet. This will expand the footprint of the control house by approximately 264 square feet. The work will include the pouring of a new concrete slab to accommodate the new section of building.

In order to accommodate vehicle access, the substation fence will need to be extended approximately 28 feet into the cleared area to the south of the substation. The work will include minor digging for the installation of fence posts and the spreading of a 6-inch thick layer of ¾ inch stone within the new fence line.

2319 Electric Transmission Line

The 2319 line will require the installation of 18 single wooden utility pole structures within the established transmission ROW. These poles will be placed approximately 20 feet south of the existing line. A hole the approximate diameter of the pole will be bored in the soil, the pole will be set in place, and the hole will be back-filled. Several (load carrying) structures will be secured additionally with guy-wires. Anchors (plank anchors in uplands and screw or manna-ray anchors in wetlands) will be installed to secure the guy-wires.

The electrical conductors will be installed using conductor reel stands and tensioning equipment. Access for structure installation and wiring will be obtained from the substation and established access points along Evergreen Lane, King Street, and Rocky Woods Road. Access to each structure is shown in Attachment E – Project Plans.

4.0 Potential Impacts

4.1 Potential Impacts

Impacts will be mainly associated with soil disturbance, trimming or removal of vegetations, and placement of new pole structures and guy-wires.

In order complete the proposed project; work will occur within one state regulated resource area (BVW) and the 100-foot buffer zone. A total area of 200 square feet of BVW will be impacted during the installation of poles 8 and 14. Of this 200 square foot alteration, all but the actual footprint of the pole will be temporary. Finally, 3,299 square feet of buffer zone will be disturbed by project related activities. A summary of individual impacts is provided in Table 4-1.

Concrete Foundations and Steel Work

No work occurred within any state regulated resource area. Approximately 75 square feet of the buffer zone was disturbed to build the foundations. Of

the 75 square feet of buffer zone work, all was within the existing substation. The impacts included temporary soil disturbance and creation of a small amount of impervious surface.

Control House and Substation Fence Expansion

No work will occur within any state regulated resource area. However, work will occur within approximately 1,824 square feet of the buffer zone. Of the 1,824 square feet of buffer zone work, approximately 264 square feet will occur within the existing substation footprint. The additional 1,560 square feet will occur in a previously cleared area adjacent to the substation. The impacts will include disturbance to soil for fence post installation within an existing fill area adjacent to the substation and creation of a small amount of impervious surface.

2319 Electric Transmission Line

The pole structures #8 and #14 are within BVW. Disturbance will be limited to the areas directly around the poles. An anticipated disturbance area of 100 square feet (10 feet by 10 feet) per pole is needed at each location. Screw anchors (non-displacing) will be used at these locations to limit further disturbance to wetlands.

Impacts within the buffer zone will be limited to minor soil and vegetation disturbance. Since the route follows an established transmission ROW, only minor tree removal is anticipated within resource areas or buffer zones. Some tree trimming is anticipated along access routes to allow truck access and for line clearance. A single red maple will removed from wetland ET11 to allow for line clearance.

Work will occur within approximately 1,400 square feet of the buffer zone. Additionally, approximately 200 square feet of BVW will be temporarily impacted by work associated with the installation of utility pole structures.

A disturbance of 150 square feet (10 feet by 15 feet) is needed at each guy-wire and plank anchor, and an area of 100 square feet (10 feet by 10 feet) is needed at each new pole location. Screw and manna-ray anchors do not require earth disturbance and do not displace more than the width of the guy-wire. These anchors screw into the ground.

Table 4-1 Resource Area and Buffer Zone Impacts

Project Facility	Resource Area	Impact
New Foundations	Buffer Zone	75sf
Control House Expansion and Substation Fence Expansion	Buffer Zone	1,824sf
Structure #1	Buffer Zone	100sf
Structure #2	Buffer Zone	100sf
Structure #3	Buffer Zone	100sf
Structure #4	Buffer Zone	100sf
Structure #5	Buffer Zone	100sf
Structure #6	Buffer Zone	100sf
Structure #7	Buffer Zone	100sf
Structure #8	BVW	100sf
Structure #9	Buffer Zone	100sf
Structure #10	Buffer Zone	100sf
Structure #11	None	N/A
Structure #12	None	N/A
Structure #13	Buffer Zone	100sf
Structure #14	BVW	100sf
Structure #15	None	N/A
Structure #16	None	N/A
Structure #17	Buffer Zone	100sf
Structure #18	Buffer Zone	100sf

Rare and Endangered Species

All of the proposed work in Groveland will take place in an areas designated as both Estimated and Priority Habitat by the Massachusetts Natural Heritage and Endangered Species Program. A copy of this letter is included in Attachment D – Agency Correspondence. The species of concern are listed in Table 4-2 – Potential Rare Species

Table 4-2 Potential Rare Species

Scientific Name	Common Name	Taxonomic Group	State Rank
Notropis bifrenatus	Bridle Shiner	Fish	Special Concern
Ambystoma laterale	Blue-spotted Salamander	Amphibian	Special Concern
Hemidactylium laterale	Four-Toed Salamander	Amphibian	Special Concern
Clemmys guttata	Spotted Turtle	Reptile	Special Concern
Emydoidea blandingii	Blanding's Turtle	Reptile	Threatened
Enallagma laterale	New England Bluet	Damselfly	Special Concern
Sparganium natans	Small Bur-reed	Vascular Plant	Endangered

Massachusetts Electric has engaged rare species experts from Hyla Ecological Associates to assess any potential impacts to rare species. Some of the listed species are unlikely to occur in the project area. For instance Bridle Shiners are typically found in major streams and water bodies. Small Bur-reed is an aquatic plant typically found in deep marsh and shallow pond waters. The project does not cross these types of habitats.

The most likely potential impacts are to the breeding areas of four-toed and blue-spotted salamanders. Hyla Ecological is currently in the process of identifying valuable breeding sites so they can be avoided. Massachusetts Electric and Hyla Associates will meet with the Massachusetts Natural

Heritage and Endangered Species Program personnel to discuss rare species issues associated with this project.

4.2 Proposed Minimization and Mitigation Measures

4.2.1 Avoidance and Minimization

Wherever possible work within resource areas and the buffer zone has been minimized. In some cases, the configuration of the ROW and existing facilities has made total avoidance of work in resource areas impossible. In cases where work in resource areas and buffer zones is required, disturbed areas (previously cleared areas, the existing substation, and established transmission ROWs) will be utilized to minimize impacts to pristine areas. Additionally, existing access points to the ROW will be utilized to limit disturbance.

By adjusting span lengths, 16 of the 18 structures have been placed outside of wetlands. In some cases the structures will be directly adjacent to wetlands to allow for spanning of the wetland. All guy-wire anchors within wetlands will be screw-type anchors.

The majority of the ROW from the 345Kv line to the Georgetown line is cleared to the full 80-feet. No large scale clearing is proposed along this portion of the line (although selective trimming or removal of trees maybe required). In sensitive areas (such as residential areas and partially cleared wetlands), new poles will be spaced twelve feet from the existing line instead of twenty feet. This will allow for reduced clearing in these areas.

4.2.2 Timing

Depending upon the schedule associated with the companion Department of Telecommunications and Energy (DTE) for this line, Massachusetts Electric is proposing to complete as much of the work as possible prior to April 15, 2004. By utilizing this window, heavy equipment is not needed near wetlands during amphibian breeding season. In addition, by installing the poles while the ground is frozen, less rutting and soil disturbance will be caused by pole trucks and other construction vehicles. Negotiations will be held with MNH&ESP personnel on this matter too.

4.2.3 Sediment and Erosion Control Measures

At all times during construction, erosion controls will be located between substation work and any wetland resource area, as a means of sediment control and to define the limit of work (see Attachment E – Project Plans). Care will be taken during construction to minimize all disturbances to the buffer zones of wetlands. Refueling of all vehicles will take place outside of

resource areas and their buffer zones. Temporary siltation barriers (haybales or woodchip bags) will be established when a pole is being installed directly adjacent to a wetland area. Haybales will be broken up to serves as a mulch over exposed soil at these select locations.

4.4.4 Restoration

Areas temporarily disturbed by pole installation activities will be restored to pre-construction condition. All surface contours will be restored. As noted, straw mulch will be places over disturbed soils areas adjacent to wetlands to prevent sediment migration.

5.0 Summary

The existing wetlands, potential project impacts and proposed mitigation measures associated with the work proposed at the King Street Substation and the construction of the 2319 transmission line have been fully documented in this Notice of Intent. The proposed project balances the needs of improving the reliability of electrical service to the residents of Groveland and other north shore communities with the performance standards of the Massachusetts Wetlands Protection Act/Groveland Bylaw. In addition, the project should be reviewed favorably by considering the following:

- The project has been designed to eliminate direct impacts to existing wetland areas wherever possible.
- The use of previously disturbed and cleared areas has been incorporated into the project design.
- Once online, the 2319 line will provide additional electric supply and reliability to the north shore area, relieving anticipated summer 2004 overloads.

ATTACHMENT B

WETLAND DELINEATION FIELD DATA FORMS

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NGRID - Groveland Prepared by: Sullivan / Vaccaro Project location: King St. Groveland DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: W3 Transect Number: Near Flag 306 Date of Delineation: 11/24/02

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees				
Red maple (Acer rubrum)	38	58.5	Yes	FAC
white pine (Pinus strobus)	10.5	16.1	NO	FACU
Paper birch (Betula papyrifera)	3.0 1.65	4.6	NO	FACU
Gray birch (Betula populifolia)	10.5	16.1	NO	FAC
Quaking aspen (Populus tremula)	3.0	4.6	NO	FACU
Shrubs				
Highbush blueberry (Vaccinium corymbosum)	20.5	43.6	Yes	FACW-
Winterberry (Ilex verticillata)	20.5	43.6	Yes	FACW+
Silky dogwood (Cornus amomum)	3.0 1.47	6.4	NO	FACW
Multiflora Rose (Rosa multiflora)	3.0	6.4	NO	FACU
Herbs				
Cinnamon fern (Osmunda cinnamomea)	20.5	100.0%	Yes	FACW

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 4 **Number of dominant non-wetland indicator plants:** 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? (yes) no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern Part 1981

map number: 24

soil type mapped: mc- mediaquists

hydric soil inclusions: yes

Are field observations consistent with soil survey? (yes) no

Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-4	10yr 4/2	
Oeb	4-18+	7.5yr 2.5/2	muck

Remarks:

3. Other:

Conclusion: Is soil hydric? (yes) no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☑ Depth to free water in observation hole: 2'
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☑	☐
other indicators of hydrology present	☑	☐
Sample location is in a BVW	☑	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NERID- EROVELAND Prepared by: Sullivan / Vaccaro Project location: King St. Sub DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: UP1 Transect Number: Points 104-105 Date of Delineation: 11/19/02

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Herbs (recently mowed)				
Sweetfern (Comptonia peregrina)	20.5	35.5%	Yes	NL
C. Buckthorn (Rhamnus frangula)	10.5	18.3%	No	FAC
Red oak (Quercus rubra)	3.0 /57.5	5.2%	No	FACU-
Bush Honeysuckle (Lonicera sp.)	3.0	5.2%	No	—
Unk. Golden Rod (Solidago sp.)	20.5	35.5%	Yes	—

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 0 **Number of dominant non-wetland indicator plants:** 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes (no)

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern Part, 1981

map number: 24

soil type mapped: WD - Udorthents, smoothed

hydric soil inclusions: yes

Are field observations consistent with soil survey? (yes) no

Remarks:

2. Soil Description

Horizon	Depth	Matrix Color		Mottles Color
A	0-1	10yr 3/3		
C	1-18+	10yr 4/2	vgsl	none

Remarks:

3. Other: Unconsolidated fill under powerlines

Conclusion: Is soil hydric? yes (no)

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☐	☑
Wetland hydrology present:		
hydric soil present	☐	☑
other indicators of hydrology present	☐	☑
Sample location is in a BVW	☐	☑

Submit this form with the Request for Determination of Applicability or Notice of Intent.

EARTH TECH
WETLAND SUMMARY FORM

Project: King Street to Mill Street Flag Series: ET21 to ET2-

Wetland ID: ET2

Observers: Sullivan / Rambazzo Town: Groveland

Date: ~~10/10/02~~ 11/19/02 Time: 2:00 PM Weather: Sunny

Dominant NWI Class: PEM Other NWI Classes:

Representative Vegetation (Record Species and Occurrence Percentage):

Trees: —

Shrubs: —

Saplings/Lianas: —

Herbs:

Purple Loosestrife (Lythrum Salicaria) D
Cattail (Typha latifolia) C
Rough Stemmed Goldenrod (Solidago rugosa) C

D = dominant (>50%), A = abundant (26-50%), C = common (6-25%), S = scarce (<5%)

Representative Hydrologic Characteristics (Circle where appropriate)

Non-tidal:	Perm. Flooded		Semi Perm. Flooded		Seasonally Flooded		Tidal:	Subtidal		Irr. Exposed	
	Saturated		Int. Flooded		Art. Flooded			Reg. Flooded		Irr. Flooded	
Hydrologic Indicators:			Silt Deposition		Water-Stained Leaves					Water Marks	
			Drift Lines		Surface Scouring					Drainage Patterns	
			Buttressed Trees		Depth of Inundation:					Depth to Soil Saturation:	

Representative Soil Characteristics: ____Mineral ____Organic

Depth	Horizon	Matrix Color	Redox Features	Texture
0-18+		10YR 5/1		

Other Soil Observations: Fill

River / Stream Data: Perennial / Intermittent

Depth @ Center:		Bank Height:											
Flow Rate:	Slow		Moderate		Fast		Bank Configuration:		Undercut		Vertical		Gradual	
Substrate	Peat-Muck		Silt-Mud		Sand		Gravel		Cobbles		Boulders			

Other Notes:

Channel next to substation

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DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NGRID - GROVELAND Prepared by: Sullivan / Vaccaro Project location: King St Sub. DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: WP1 Transect Number: Flag 104-105 Date of Delineation: 11/14/02

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Herbs (only)				
Purple Loosestrife (Lythrum salicaria)	20.5	29.7%	Yes	FACW+
Reed canary grass (Phalaris arundinacea)	38	55.1%	Yes	FACW+
Soft rush (Juncus effusus)	10.5	15.2%	No	FACW+

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 2 **Number of dominant non-wetland indicator plants:** 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? (yes) no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern Part, 1981

map number: 24

soil type mapped: UD- Udorthents, smoothed

hydric soil inclusions: yes

Are field observations consistent with soil survey? (yes) no

Remarks:

2. Soil Description

Horizon	Depth	Matrix Color		Mottles Color
O_i	1/2 - 0			
C	0 - 18+	10yr 5/2	vg sand	@ 2" 7.5yr 4/6 many coarse Distinct

Remarks:

3. Other: Unconsolidated fill material

Conclusion: Is soil hydric? (yes) no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☑ Depth to free water in observation hole: 2"
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☑ Oxidized rhizospheres: _____
- ☐ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☑	☐
other indicators of hydrology present	☑	☐
Sample location is in a BVW	☑	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

EARTH TECH
WETLAND SUMMARY FORM

Project: Kings Street to Mill Street Flag Series: ET4-1 to ET4/19
Wetland ID: ET4
Observers: Sullivan Ramberger Town: GROVELAND
Date: 10/20/03 Time: 2:00 Weather: SUNNY

Dominant NWI Class: PEM Other NWI Classes:

Representative Vegetation (Record Species and Occurrence Percentage):

Trees: None

Shrubs: None

Saplings/Lianas: None

Herbs: Purple loosestrife (Lythrum salicaria) D
Rough stemmed Goldenrod (Solidago rugosa) A

D = dominant (>50%), A = abundant (26-50%), C = common (6-25%), S = scarce (<5%)

Representative Hydrologic Characteristics (Circle where appropriate)

Non-tidal:	Perm. Flooded		Semi Perm. Flooded		Seasonally Flooded		Tidal:	Subtidal		Irr. Exposed	
	Saturated		Int. Flooded		Art. Flooded			Reg. Flooded		Irr. Flooded	
Hydrologic Indicators:		Silt Deposition		Water-Stained Leaves						Water Marks	
		Drift Lines		Surface Scouring						Drainage Patterns	
		Buttressed Trees		Depth of Inundation:						Depth to Soil Saturation:	

Representative Soil Characteristics: X Mineral ____ Organic

Depth	Horizon	Matrix Color	Redox Features	Texture
0-8	A	10yr2/1		SL
8-18+	Bw1	10yr5/2	10y 5/7	SL

Other Soil Observations:

River / Stream Data: Perennial / Intermittent

Depth @ Center:		Bank Height:									
Flow Rate:	Slow		Moderate		Fast		Bank Configuration:		Undercut		Vertical		Gradual	
Substrate	Peat-Muck		Silt-Mud		Sand		Gravel		Cobbles		Boulders			

Other Notes:

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DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: Neelo/Meco Prepared by: Sullivan/Ramsbger Project location: King/mill DEP File #: ______

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: UP5 Transect Number: SC-7 Date of Delineation: 11/4/03

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
No trees				
No saplings				
Shrubs				
Silky dogwood (Cornus amomum)	15%	30%	yes	FACW
Greenbriar (Smilax rotundifolia)	20%	40%	yes	FAC
Buckthorn (Rhamnus cathartica)	15%	30%	yes	UPL
No Herbs				

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 2 **Number of dominant non-wetland indicator plants:** 1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? (yes) no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5% - 3 6-15% - 10.5 16-25% - 20.5 26-50% - 38% 51-75% - 63% 76-95% - 85.5% 96-100% - 98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern Part 1981

map number: 27

soil type mapped: CANTON

hydric soil inclusions: ~0

Are field observations consistent with soil survey? (yes) no

Remarks:

Restrictive field

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
Ap	0-12	10yr 3/2	
Bw1	12-18	7.5y 4/4	

Remarks:

3. Other:

Conclusion: Is soil hydric? yes (no)

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☐	☑
other indicators of hydrology present	☐	☑
Sample location is in a BVW	☐	☑

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NEPCO/MECO Prepared by: Sullivan/Rantzer Project location: King / Mill DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: WET 5 Transect Number: SL-7 Date of Delineation: 11/4/03

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
Trees				
Grey Birch (Betula lenta)	25%	35.7%	Yes	
Red maple (Acer rubrum)	45%	64.3%	Yes	FAC
Shrubs				
silky dogwood (Cornus amomum)	30%	35.3%	Yes	FACW
multiflora rose (Rosa multiflora)	20%	23.5%	Yes	FACU
Northern Arrowwood (Viburnum dentatum)	20%	23.5%	Yes	FACW-
Bush Honeysuckle (Lonicera sp.)	15%	17.7%	NO	FACU
Herbs				
Sensitive fern (Onoclea sensibilis)	20%	100%	Yes	FACW

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 4 **Number of dominant non-wetland indicator plants:** 1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? (yes) no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5% - 3 6-15% - 10.5 16-25% - 20.5 26-50% - 38% 51-75% - 63% 76-95% - 85.5% 96-100% - 98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern part 1981

map number: 24

soil type mapped: Mclisaprist

hydric soil inclusions: 5%

Are field observations consistent with soil survey? yes (no)

Remarks:

Data point on Edge of wetland

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-6	10yr 3/2	
Bw1	6-10	10yr 4/2	
Bw2	10-18	10yr 3/2	

Remarks:

3. Other:

Conclusion: Is soil hydric? (yes) no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☑ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☑ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☑	☐
other indicators of hydrology present	☑	☐
Sample location is in a BVW	☑	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

EARTH TECH
WETLAND SUMMARY FORM

Project: Kings Street to Mill Street Flag Series: ET6-1 to
Wetland ID: ET 6
Observers: Sullivan + Rumberger Town: CROVELAND
Date: 10/30/03 Time: 1PM Weather: Sunny

Dominant NWI Class: PSS Other NWI Classes:

Representative Vegetation (Record Species and Occurrence Percentage):

Trees:
White Pine (Pinus strobus) C

Shrubs:
Northern Arrowwood (Viburnum Dentatum) D
Multiflora rose (Rosa multiflora) S
Glossy Buckthorn (Rhamnus frangula) A

Saplings/Lianas:
White Pine (Pinus Strobus) C
Buckthorn (Rhamnus cathartica) C

Herbs:
Royal Fern (Osmunda regalis) A
Rough Goldenrod (Solidago rugosa) A
Purple loosestrife (Lythrum salicaria) A

D = dominant (>50%), A = abundant (26-50%), C = common (6-25%), S = scarce (<5%)

Representative Hydrologic Characteristics (Circle where appropriate)

Non-tidal:	Perm. Flooded		Semi Perm. Flooded		Seasonally Flooded		Tidal:	Subtidal		Irr. Exposed	
	Saturated		Int. Flooded		Art. Flooded			Reg. Flooded		Irr. Flooded	
Hydrologic Indicators:			Silt Deposition		Water-Stained Leaves					Water Marks	
			Drift Lines		Surface Scouring					Drainage Patterns	
			Buttressed Trees		Depth of Inundation:					Depth to Soil Saturation:	

Representative Soil Characteristics: X Mineral ____ Organic

Depth	Horizon	Matrix Color	Redox Features	Texture
0-8	A	10yr 2/1		SL
8-10+	B-i	10yr 5/2	10yr 6/6	SL

Other Soil Observations:

River / Stream Data: Perennial / Intermittent

Depth @ Center:		Bank Height:											
Flow Rate:	Slow		Moderate		Fast		Bank Configuration:		Undercut		Vertical		Gradual	
Substrate	Peat-Muck		Silt-Mud		Sand		Gravel		Cobbles		Boulders			

Other Notes:

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DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NEPCO/MECO Prepared by: Sullivan / Rombarger Project location: Kings St/Mill ST DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: WET 7 Transect Number: T-17 Date of Delineation: 10/30/03

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
No Trees				
No Saplings				
Shrubs				
UNK. Viburnum (no leaves)	40 % (38%)	69.7%	yes	UNK
Pepperbush (Clethra alnifolia)	15% (10.5%)	19.3%	No	—
White pine (Pinus strobus)	5% (3%)	5.5%	No	—
Glossy Buckthorn (Rhamnus frangula)	5% (3%)	5.5%	No	—
		54.5%		
Herbs				
Cinnamon fern (Osmunda cinnamomea)	15% (10.5%)	16.9%	No	—
Sensitive fern (Onoclea sensibilis)	5% (3%)	4.8%	No	—
Sphagnum moss (Sphagnum sp.)	40% (38%)	61.3%	Yes	OBL
Purple loosestrife (Lythrum salicaria)	10% (10.5%)	16.9%	No	—
		62%		

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 1-2 **Number of dominant non-wetland indicator plants:** 0-1

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? (yes) no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5% - 3 6-15% - 10.5 16-25% - 20.5 26-50% - 38% 51-75% - 63% 76-95% - 85.5% 96-100% - 98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern Part 1981

map number: 24

soil type mapped: Medisaprist

hydric soil inclusions: yes

Are field observations consistent with soil survey? yes (no)

Remarks: No Organic on wetland edge, but hydric

2. Soil Description

Horizon	Depth	Matrix Color		Mottles Color
	0-14	10yr 2/1	51	—
	14-18	10yr 6/2	51	—

Remarks:

3. Other:

Conclusion: Is soil hydric? (yes) no

Other Indicators of Hydrology: (check all that apply and describe)

- [x] Site inundated: _____
- [ ] Depth to free water in observation hole: _____
- [ ] Depth to soil saturation in observation hole: _____
- [ ] Water marks: _____
- [ ] Drift lines: _____
- [ ] Sediment deposits: _____
- [x] Drainage patterns in BVW: _____
- [ ] Oxidized rhizospheres: _____
- [ ] Water-stained leaves: _____
- [ ] Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- [ ] Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	[x]	[ ]
Wetland hydrology present:		
hydric soil present	[x]	[ ]
other indicators of hydrology present	[x]	[ ]
Sample location is in a BVW	[x]	[ ]

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NEPCO/MECO Prepared by: Sullivan/Ramboyer Project location: Kingst/Mill ST DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: VP7 Transect Number: T-17 Date of Delineation: 10/30/03

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
No TREES				
No SAPLINGS				
SHRUBS				
Red OAK (Quercus rubra)	15% (10.5%)	63.6%	Yes	FACU-
White OAK (Quercus alba)	5% (3%)	18.2%	No	—
meadow sweet (Spirea latifolia)	5% (3%)	18.2%	NO	—
	16.5%			
Herbs				
Oak grass (Carex sp.)	20% (20.5%)	39.8%	Yes	?
Teaberry (Gaultheria procumbens)	20% (20.5%)	39.8%	Yes	FACU
Bristly Dewberry (Rubus hispidus)	10% (10.5%)	20.4%	Yes	FACW
	51.5%			

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 1-2 **Number of dominant non-wetland indicator plants:** 2-3

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? (yes) no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5% - 3 6-15% - 10.5 16-25% - 20.5 26-50% - 38% 51-75% - 63% 76-95% - 85.5% 96-100% - 98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern Part 1981

map number: 24

soil type mapped:

hydric soil inclusions: no

Are field observations consistent with soil survey? (yes) no

Remarks:

2. Soil Description

Horizon	Depth	Matrix Color		Mottles Color
A	0-3	2.5y 4/1	SI	
Bw1	3-12	2.5y 5/4	SI	
Bw2	12-18+	2.5y 5/3	SI	ft 7.5yr 5/6 mf 7.5yr 5/6

Remarks:

3. Other:

within Cleared Row, Recently disturbed

Conclusion: Is soil hydric? yes (no)

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☐	☑
other indicators of hydrology present	☐	☑
Sample location is in a BVW	☐	☑

Submit this form with the Request for Determination of Applicability or Notice of Intent.

EARTH TECH
WETLAND SUMMARY FORM

Project: King St to Mill St Flag Series: ET 8-1 to ET 8-6

Wetland ID: ET 8

Observers: Sullivan / Rambarger Town: GROVELAND

Date: 10/30/03 Time: 2:30 PM Weather: Sunny 70s

Dominant NWI Class: PSS1 Other NWI Classes:

Representative Vegetation (Record Species and Occurrence Percentage):

Trees:

NONE

Shrubs:

winterberry (Ilex verticillata) C
maleberry (Lyonia ligustrina) C
steeple bush (Spiraea latifolia) C
Glossy Buckthorn (Rhamnus frangula) C

Saplings/Lianas:

White Pine (Pinus Strobs) C
Cottonwood (Populus deltoides) S

Herbs:

Royal fern (Osmunda regalis) A
Cinnamon fern (Osmunda cinnamomea) A
Swamp Dewberry (Rubus hispidus) C
Sphagnum moss (Sphagnum moss) A

D = dominant (>50%), A = abundant (26-50%), C = common (6-25%), S = scarce (<5%)

Representative Hydrologic Characteristics (Circle where appropriate)

Non-tidal:	Perm. Flooded		Semi Perm. Flooded		Seasonally Flooded	Tidal:	Subtidal		Irr. Exposed	
	Saturated		Int. Flooded		Art. Flooded		Reg. Flooded		Irr. Flooded	
Hydrologic Indicators:			Silt Deposition		Water-Stained Leaves				Water Marks	
			Drift Lines		Surface Scouring				Drainage Patterns	
			Buttressed Trees		Depth of Inundation:				Depth to Soil Saturation:	

Representative Soil Characteristics: X Mineral ____ Organic

Depth	Horizon	Matrix Color	Redox Features	Texture
0-7	A	10yr 2/1	none	FSL
7-17	Bw1	10yr 6/8	none	FSL
17+18	refusal			

Other Soil Observations:

River / Stream Data: Perennial / Intermittent

Depth @ Center:		Bank Height:											
Flow Rate:	Slow		Moderate		Fast		Bank Configuration:		Undercut		Vertical		Gradual	
Substrate	Peat-Muck		Silt-Mud		Sand		Gravel		Cobbles		Boulders			

Other Notes:

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EARTH TECH
WETLAND SUMMARY FORM

Project: Kingstreet & Millstreet Flag Series: ET9-1 to ET9-13
Wetland ID: ET9
Observers: Sullivan / Ambrose Town: Groveland
Date: 10/30/13 Time: 3pm Weather: sunny

Dominant NWI Class: PFO / PSS Other NWI Classes:

Representative Vegetation (Record Species and Occurrence Percentage):

Trees:
White Pine (Pinus Strobo) D
White Oak (Quercus alba) C

Shrubs:
Highbush Blueberry (Vaccinium corymbosum) A
steeple bush (Spirea tomentosa) A
Maleberry (Lyonia ligustrina) C
sheep laurel (Kalmia angustifolia) C
Glossy Buckthorn (Rhamnus frangula) S

Saplings/Lianas:
White Birch (Betula papyrifera) S

Herbs:
Royal fern (Osmunda regalis) A
Cinnamon fern (Osmunda cinnamomea) A
Princess Pine (Lycopodium obscurum) A
Sphagnum moss (Sphagnum sp.) D

D = dominant (>50%), A = abundant (26-50%), C = common (6-25%), S = scarce (<5%)

Representative Hydrologic Characteristics (Circle where appropriate)

Non-tidal:	Perm. Flooded		Semi Perm. Flooded		Seasonally Flooded		Tidal:	Subtidal		Irr. Exposed	
	Saturated		Int. Flooded		Art. Flooded			Reg. Flooded		Irr. Flooded	
Hydrologic Indicators:			Silt Deposition		Water-Stained Leaves					Water Marks	
			Drift Lines		Surface Scouring					Drainage Patterns	
			Buttressed Trees		Depth of Inundation:					Depth to Soil Saturation:	

Representative Soil Characteristics: X Mineral ____ Organic

Depth	Horizon	Matrix Color	Redox Features	Texture
0-10	A	10yr 2/1		SL
10-18	Bw1	10yr 5/1	mf 10yr 5/4	SL

Other Soil Observations:

River / Stream Data: Perennial / Intermittent

Depth @ Center:		Bank Height:											
Flow Rate:	Slow		Moderate		Fast		Bank Configuration:		Undercut		Vertical		Gradual	
Substrate	Peat-Muck		Silt-Mud		Sand		Gravel		Cobbles		Boulders			

Other Notes:
DATA Point Near ET9-9

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EARTH TECH
WETLAND SUMMARY FORM

Project: King Street to Mill Street Flag Series: ET10-1 to ET10-4

Wetland ID: ET10

Observers: Bullivan / Ramberger Town: GROVELAND

Date: 10/30/03 Time: 3pm Weather: Sunny

Dominant NWI Class: PFO Other NWI Classes:

Representative Vegetation (Record Species and Occurrence Percentage):

Trees:

None

Shrubs:

Maleberry (Lyonia ligustrina) A
Glossy Buckthorn (Rhamnus frangula) A
Highbush Blueberry (Vaccinium corymbosum) D

Saplings/Lianas:

Red maple (Acer rubrum) C

Herbs:

Cinnamon Fern (Osmunda cinnamomea) A
Royal Fern (Osmunda regalis) A

D = dominant (>50%), A = abundant (26-50%), C = common (6-25%), S = scarce (<5%)

Representative Hydrologic Characteristics (Circle where appropriate)

Non-tidal:	Perm. Flooded		Semi Perm. Flooded		Seasonally Flooded	Tidal:	Subtidal		Irr. Exposed	
	Saturated		Int. Flooded		Art. Flooded		Reg. Flooded		Irr. Flooded	
Hydrologic Indicators:			Silt Deposition		Water-Stained Leaves				Water Marks	
			Drift Lines		Surface Scouring				Drainage Patterns	
			Buttressed Trees		Depth of Inundation:				Depth to Soil Saturation:	

Representative Soil Characteristics: X Mineral _____ Organic

Depth	Horizon	Matrix Color	Redox Features	Texture
0-8	A	10yr 2/1		
8-16	Bw1	2.5y 5/2	mF 2.5 6/6 mole	SL
16-18	Bw2	2.5y 6/2		SAND

Other Soil Observations:

River / Stream Data: Perennial / Intermittent

Depth @ Center:		Bank Height:											
Flow Rate:	Slow		Moderate		Fast		Bank Configuration:		Undercut		Vertical		Gradual	
Substrate	Peat-Muck		Silt-Mud		Sand		Gravel		Cobbles		Boulders			

Other Notes:

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DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NEPCO / MECO Prepared by: Sullivan / Rosburger Project location: King St / Mt. 11 St DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: UP11 Transect Number: 11A-5 Date of Delineation: 10/31/03

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
NO TREES				
NO SAPLINGS)				
NO SHRUBS				
White pine (Pinus strobus)	10 (10.5)	41.2%	yes	FACU
Sweet Birch (Betula lenta)	3 (3)	11.8%	yes	FACU
Speckled Alder (Alnus rugosa)	3 (3)	11.8%	yes	FACW+
Highbush blueberry (Vaccinium corymbosum)	3 (3)	11.8%	yes	FACW-
Quaking Aspen (Populus tremula)	3 (3)	11.8%	yes	FACU
Sweet Fern (Comptonia peregrina)	3 (3)	11.8%	yes	UPL
Herbs	25.5			
Rough Stemmed Golden Rod (Rough stemmed Golden Rod)	20 (20.5)	27.3%	yes	FAC
NE ASTER (Aster Novae-Angliae)	10 (10.5)	14%	no	
Bristly Dewberry (Rubus hispidus)	20 (20.5)	27.3%	yes	FACW
Cinnamon Fern (Osmunda cinnamomea)	5 (3)	4%	no	
Hay scented Fern (Dennstaedtia punctilobula)	20 (20.5)	27.3%	yes	UPL
	73.5			

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 4 **Number of dominant non-wetland indicator plants:** 4

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5% - 3 6-15% - 10.5 16-25% - 20.5 26-50% - 38% 51-75% - 63% 76-95% - 85.5% 96-100% - 98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern part 1981

map number: 29

soil type mapped: Canton

hydric soil inclusions: yes

Are field observations consistent with soil survey? (yes) no

Remarks:

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-2	10yr 2/1	5/
Bw1	2-12	10yr 7/3	5/
Bb	12-18+	10yr 2/1	5/
Bw2	18+	10yr 4/2	5/

Remarks:

3. Other:

wetland cleared row

Conclusion: Is soil hydric? yes (no)

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☐	☑
other indicators of hydrology present	☐	☑
Sample location is in a BVW	☐	☑

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NEPCO/MASCO Prepared by: Sullivan/Rowbotham Project location: King St/Mill St DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: WETII Transect Number: ETIIA-5 Date of Delineation: 10/31/03

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
TREES				
Red maple (Acer rubrum)	25% (20.5)	100%	yes	
no SAPLINGS	20.5%			FAC
shrubs				
Purple or Black chokecherry (Pyrus floribunda or Pyrus melanocarpa) (NO FLOWERS)	10% (10.5)	12.7%	NO	—
Pepperbush (Clethra alnifolia)	25% (20.5)	24.8%	yes	FAC+
maleberry (Lyonia ligustrina)	10% (10.5)	12.7%	NO	—
highbush blueberry (Vaccinium corymbosum)	20% (20.5)	24.8%	yes	FACW-
winter berry (Ilex verticillata)	20% (20.5)	24.8%	yes	FACW+
	82.5			
Herbs				
Cinnamon fern (Osmunda cinnamomea)	15% (10.5)	21.6 %	yes	FACW
Sphagnum moss (Sphagnum sp.)	45% (38%)	78.4 %	yes	OBL
	98.5			

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 6 **Number of dominant non-wetland indicator plants:** 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5% - 3 6-15% - 10.5 16-25% - 20.5 26-50% - 38% 51-75% - 63% 76-95% - 85.5% 96-100% - 98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern Part 1981

map number: 24

soil type mapped: Ridgebury

hydric soil inclusions: yes

Are field observations consistent with soil survey? (yes) no

Remarks: Soil survey shows stream channel

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
O	0-16	N 2.5/	muck
Bw1	16-18+	10yr 5/1	sand

Remarks:

3. Other:

Conclusion: Is soil hydric? (yes) no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☑ Depth to soil saturation in observation hole: 2"
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☑ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☑	☐
other indicators of hydrology present	☑	☐
Sample location is in a BVW	☑	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NEPCO/MECO Prepared by: Sullivan/Rensberger Project location: King St/m.11 DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: WET12 Transect Number: ET12-12 Date of Delineation: 10/31/03

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
No TREES				
No sapling				
~~No~~ shrubs				
Winterberry (Ilex verticillata)	60% (63%)	82.4%	Yes	FACW-
Witch hazel (Hamamelis virginiana)	15% (10.5%)	13.7%	No	—
Sweet Birch (Betula lenta)	5% (3%)	3.9%	No	—
	76.5%			
Herbs				
Royal fern (Osmunda regalis)	25% (20.5%)	49.4%	Yes	OBL
Bristly dewberry (Rubus hispidus)	15% (10.5%)	25.3%	Yes	FACW
Rough stemmed Goldenrod (Solidago rugosa)	10% (10.5%)	25.3%	Yes	FAC
	91.5%			

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 4 **Number of dominant non-wetland indicator plants:** 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? (yes) no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5%-3 6-15%-10.5 16-25%-20.5 26-50%-38% 51-75%-63% 76-95%-85.5% 96-100%-98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern Part 1981

map number: 29

soil type mapped: Canton

hydric soil inclusions: yes

Are field observations consistent with soil survey? yes (no)

Remarks: Small Bvw area not large enough to show up on soil survey.

2. Soil Description

Horizon	Depth	Matrix Color		Mottles Color
A	0-10	10yr 3/1	sl	
Bw1	10-18+	10yr 6/1	sl	mf 10yr 6/6

Remarks:

3. Other:

Ponded area on west side

Conclusion: Is soil hydric? (yes) no

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☑ Drainage patterns in BVW: _____
- ☑ Oxidized rhizospheres: _____
- ☑ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☑	☐
other indicators of hydrology present	☑	☐
Sample location is in a BVW	☑	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: MEDC / MEC Prepared by: Sullivan / Rembiszer Project location: King / Mill St DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: VP12 Transect Number: BT12-12 Date of Delineation: 10/3/07

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
No Trees				
Saplings				
Sweet birch (Betula lenta)	20% (20.5)	100%	YES	FACU
Shrubs	(20.5)			
Witch hazel (Hamamelis virginiana)	20% (20.5)	66.3%	YES	FAC-
Glossy buckthorn (Rhamnus frangula)	15% (10.8)	30.9%	YES	FAC
Red oak (Quercus rubra)	5% (3)	8.8%	NO	—
Herbs	34%			
Bristly dewberry (Rubus hispidus)	15% (10.5)	21.6%	YES	FACW-
Rough stemmed Goldenrod (Solidago rugosa)	35% (38%)	78.4%	YES	FAC
	48.5			

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 3 **Number of dominant non-wetland indicator plants:** 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? (yes) no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5% - 3 6-15% - 10.5 16-25% - 20.5 26-50% - 38% 51-75% - 63% 76-95% - 85.5% 96-100% - 98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County northern Part 1981

map number: 24

soil type mapped: CANTON

hydric soil inclusions: 40%

Are field observations consistent with soil survey? yes (no)

Remarks:

with some cleared Row

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-2	10yr 2/1 sl	
Bw1	2-12	10yr 3/3 sl	mf 7.5yr 5/6
Bw2	12-18+	10yr 6/1 sl	mf 7.5yr 5/6

Remarks:

3. Other:

Conclusion: Is soil hydric? yes (no)

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☐	☑
other indicators of hydrology present	☐	☑
Sample location is in a BVW	☐	☑

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NEPCO / MECO Prepared by: Sullivan / Rosburger Project location: King St / Mill St DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☑ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: UP13 Transect Number: T13-7 Date of Delineation: 10/31/03

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
NO TREES				
NO SAPLINGS				
shrubs				
Sweet Birch (Betula lenta)	5% (3%)	18.2%	~~yes~~ NO	—
Glossy Buckthorn (Rhamnus frangula)	5% (3%)	18.2%	~~yes~~ NO	—
Black Raspberry (Rubus occidentalis)	15% (10.5%)	63.6%	yes	upl
	16.5			
herbs				
Hayscented Fern (Dennstaedtia punctilobula)	85% (85.5%)	100%	yes	upl

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 0 **Number of dominant non-wetland indicator plants:** 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? yes no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5% - 3 6-15% - 10.5 16-25% - 20.5 26-50% - 38% 51-75% - 63% 76-95% - 85.5% 96-100% - 98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Attleboro Part 1981
map number: 29
soil type mapped: Canton
hydric soil inclusions: yes

Are field observations consistent with soil survey? (yes) no
Remarks:

Attleboro cleared Rsa

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-6	10yr 3/2	51
B_{w1}	6-17	10yr 4/4	51
B_{w2}	17-18+	10yr 7/4	vyst

Remarks:

3. Other:

Conclusion: Is soil hydric? yes (no)

Other Indicators of Hydrology: (check all that apply and describe)

- ☐ Site inundated: _____
- ☐ Depth to free water in observation hole: _____
- ☐ Depth to soil saturation in observation hole: _____
- ☐ Water marks: _____
- ☐ Drift lines: _____
- ☐ Sediment deposits: _____
- ☐ Drainage patterns in BVW: _____
- ☐ Oxidized rhizospheres: _____
- ☐ Water-stained leaves: _____
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) : _____
- ☐ Other: _____

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☐	☑
Wetland hydrology present:		
hydric soil present	☐	☑
other indicators of hydrology present	☐	☑
Sample location is in a BVW	☐	☑

Submit this form with the Request for Determination of Applicability or Notice of Intent.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: NEPCo / MECO Prepared by: Sullivan / Rantzer Project location: King St / Mill St DEP File #:

Check all that apply:

- ☐ Vegetation alone presumed adequate to delineate BVW boundary: fill out Section I only
- ☐ Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II
- ☐ Method other than dominance test used (attach additional information)

Section I. Vegetation

Observation Plot Number: WET13 Transect Number: ETB-7 Date of Delineation: 10/31/02

A. Sample Layer and Plant Species (by common/scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (yes or no)	E. Wetland Indicator Category*
NO TREES				
NO SAPLINGS				
Shrubs				
mountain holly (Nemopanthus mucronatus)	40 (38)	47.8%	YES	OBL
white pine (pinus strobus)	10 (10.5)	13.2%	NO	—
sweet Birch (Betula lenta)	10 (10.5)	13.2%	NO	—
winterberry (Ilex verticillata)	25 (20.5) / 79.5	25.8%	YES	FACW
Herbs				
Sensitive fern (Onoclea sensibilis)	20 (20.5)	37.6%	YES	FACW
Maidenhair fern (Adiantum pedatum)	15 (10.5)	19.3%	NO	—
Bristly dewberry (Rubus hispidus)	20 (20.5)	37.6%	YES	FACW
Rough stemmed Goldenrod (Solidago rugosa)	5 (3) / 54.5	5.5%	NO	—

* Use an asterisk to mark wetland indicator plants: plant species listed in the Wetlands Protection Act (MGL c.131, s.40); plants in the genus *Sphagnum*; plants listed as FAC, FAC+, FACW-, FACW, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological or morphological adaptations, describe the adaptation next to the asterisk.

Vegetation conclusion:

Number of dominant wetland indicator plants: 4 **Number of dominant non-wetland indicator plants:** 0

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? (yes) no

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

MA DEP; 3/95

1-5% - 3 6-15% - 10.5 16-25% - 20.5 26-50% - 38% 51-75% - 63% 76-95% - 85.5% 96-100% - 98%

Section II. Indicators of Hydrology

Hydric Soil Interpretation

1. Soil Survey

Is there a published soil survey for this site? (yes) no

title/date: Essex County Northern Part 1981

map number: 24

soil type mapped: Canton

hydric soil inclusions: yes

Are field observations consistent with soil survey? yes (no)

Remarks:

small wetland

2. Soil Description

Horizon	Depth	Matrix Color	Mottles Color
A	0-12	10yr 2/1	st
Bw1	12-18+	10yr 3/1	mf 7.5yr 4/4
	12-18+	10yr 4/2	

Remarks:

3. Other:

Conclusion: Is soil hydric? (yes) no

Other Indicators of Hydrology: (check all that apply and describe)

- ☑ Site inundated:
- ☐ Depth to free water in observation hole:
- ☐ Depth to soil saturation in observation hole:
- ☐ Water marks:
- ☐ Drift lines:
- ☐ Sediment deposits:
- ☑ Drainage patterns in BVW:
- ☐ Oxidized rhizospheres:
- ☑ Water-stained leaves:
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other) :
- ☐ Other:

Vegetation and Hydrology Conclusion

	yes	no
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☑	☐
Wetland hydrology present:		
hydric soil present	☑	☐
other indicators of hydrology present	☑	☐
Sample location is in a BVW	☑	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent.

ATTACHMENT C

ABUTTER'S LIST AND NOTIFICATION INFORMATION

Notification to Abutters Under the Massachusetts Wetland Protection Act

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, you are hereby notified of the following:

A. The name of the applicant is The Massachusetts Electric Company, Inc.

B. The applicant has filed a Notice of Intent with the Conservation Commission for the municipality of Groveland seeking permission to remove, fill, dredge or alter an Area Subject to Protection Under the Wetlands Protection Act (General Laws Chapter 131, Section 40).

C. The address of the lot where the activity is proposed is King Street Substation and existing right-of-way from the substation to the Georgetown line (crosses King Street and Evergreen Lane)

D. Copies of the notice of Intent may be examined at Groveland Conservation Commission Office, Groveland Town Hall, 183 Main Street Groveland, MA 01834 or Earth Tech, 196 Baker Avenue, Concord, MA 01742 between hours of 9:00PM and 5:00PM Monday-Friday

For more information, call: 978 374 - 1863
Check One: This is the applicant ☐, representative ☐, or other ☒ (specify):
Groveland Conservation Commission

E. Copies of the Notice of Intent may be obtained from either (check one) the Applicant ☐, or the applicant's representative ☒, by calling this telephone Number (978) 371 - 4216 between the hours of 9:00am and 5:00pm on The following days of the week: Monday through Friday

F. Information regarding the date, time, and place of the public hearing may be Obtained from Groveland Conservation Commission
By calling this telephone number 978 374 - 1863
between hours of 7:00PM and 8:30PM Monday

NOTE: Notice of the public hearing, including its date, time, and place, will be published at least five (5) days in advance in the Lawrence Eagle Tribune and the Newburyport Daily News
(name of newspaper)

NOTE: Notice of the public hearing, including its date, time, and place, will be Posted in the City or Town Hall not less than forty-eight (48) hours in advance.

NOTE: You also may contact your local Conservation Commission or the nearest Department of Environmental Protection Regional Office for more information about This application or the Wetlands Protection Act. To contact DEP, call:

Central Region: (508) 792-7650

***Northeast Region: (617) 935-2160**

Southeast Region: (508) 946-2800

Western Region: (413) 784-1100

ATTACHMENT D

AGENCY CORRESPONDENCE

Commonwealth of Massachusetts
Division of Fisheries & Wildlife
MassWildlife

Wayne F. MacCallum, *Director*

October 31, 2003

F. Paul Richards
National Grid USA
55 Bearfoot Road
Northborough, MA 01532

Re: King St. to Mill St. Electrical ROW and Substation
Georgetown and Groveland, MA
NHESP File: 03-12719

Dear Mr. Richards,

Thank you for contacting the Natural Heritage and Endangered Species Program (NHESP) of the MA Division of Fisheries & Wildlife (DFW) for information regarding state-protected rare species in the vicinity of the above referenced site. I have reviewed the site and would like to offer the following comments.

Based on the project boundaries as delineated on the locus map you provided, the site occurs partially within Estimated Habitat WH 7/Priority Habitat PH 17, and is adjacent to WH 7421/PH 36 as indicated in the 11th Edition of the Massachusetts Natural Heritage Atlas. Our database indicates that the following protected rare species occur within these Habitats in the vicinity of the site:

Scientific name	Common Name	Taxonomic Group	State Rank
Notropis bifrenatus	Bridle Shiner	Fish	SC
Ambystoma laterale	Blue-Spotted Salamander	Amphibian	SC
Hemidactylium scutatum	Four-toed Salamander	Amphibian	SC
Clemmys guttata	Spotted Turtle	Reptile	SC
Emydoidea blandingii	Blanding's Turtle	Reptile	T
Enallagma laterale	New England Bluet	Damselfly	SC
Sparganium natans	Small Bur-reed	Vascular Plant	E

These species are protected under the Massachusetts Endangered Species Act (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00) as well as the state's Wetlands Protection Act (M.G.L. c. 131, s. 40) and its implementing regulations (310 CMR 10.00). Fact sheets for many of these species can be found on our website at www.state.ma.us/dfwele/dfw. In addition, Certified Vernal Pools # 1932 and 2786 occur in the vicinity of the site. Please contact the Georgetown Conservation Commission for information on these vernal pools.

Division of Fisheries and Wildlife
Field Headquarters, One Rabbit Hill Road, Westborough, MA 01581 (508) 792-7270 Fax (508) 792-7275
An Agency of the Department of Fisheries, Wildlife & Environmental Law Enforcement

This evaluation is based on the most recent information available in the Natural Heritage database, which is constantly being expanded and updated through ongoing research and inventory. Should your site plans change, or new rare species information become available, this evaluation may be reconsidered.

Using the list of rare species provided above, we recommend that rare wildlife and/or plant surveys be conducted by qualified individuals within suitable habitats on and near the site according to scientifically accepted survey methodologies. A Rare Animal/Plant Observation Form, available at our website www.masswildlife.org, should be submitted for each species encountered. If during this site evaluation rare species are found on or near the site, then site plans and a project description should be sent to NHESP Environmental Review to determine whether a probable "take" under the MA Endangered Species Act (G.L. c. 131A) would occur. If NHESP determines that the proposed project would "take" a rare species, and the site is greater than two acres, and within a Priority Habitat site, an Environmental Notification Form should be submitted pursuant to the MA Environmental Policy Act regulations (301 CMR 11.03(2)(b)(2)). If the project site does not occur within a Priority Habitat, but rare species have recently been found on or near the site, then site plans and a site description should be submitted for MESA review. A Conservation & Management Permit may be required for work in rare species habitat.

If the project site is within Estimated Habitat for Rare Wildlife and a Notice of Intent (NOI) is required, then a copy of the NOI must be submitted to the NHESP in a timely manner, so that it is received at the same time as the conservation commission. Using the species list provided above, the Resource Areas on the site should be evaluated as important wildlife habitat for state-protected species, focusing on those areas that provide feeding, breeding, over-wintering, shelter and migration functions. The project should be evaluated for compliance with the rare species performance standard, which is that there shall be no short or long-term adverse affects to the habitat (within Resource Areas)(310 CMR 10.37 and 10.59).

If you have any questions regarding this review, please contact Tom French, Assistant Director, at ext. 163.

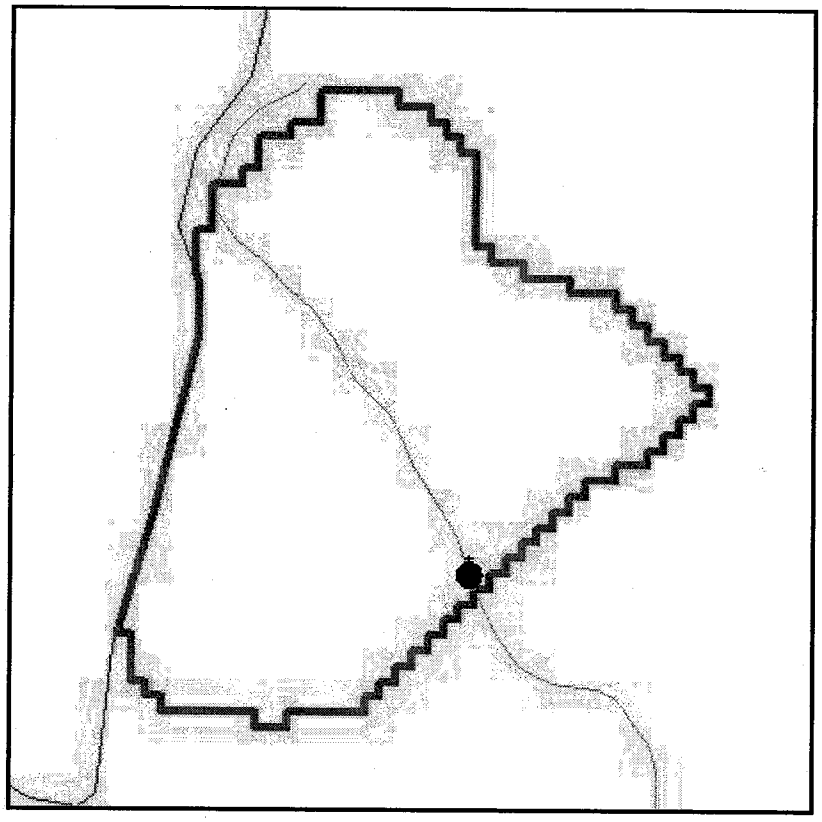
Sincerely,

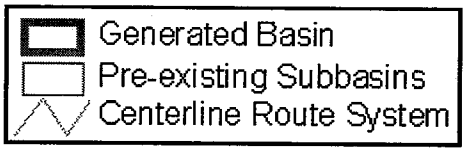
Thomas W. French

Thomas W. French, Ph.D
Assistant Director

USGS
science for a changing world

Streamflow Statistics Report





Date: Wed Dec 03 09:01:30 2003
Warning! Drainage Area outside allowable range. Prediction intervals not calculated.
Latitude: 42.7394
Longitude: -71.0038
Measured Basin Characteristics:
Drainage Area (square miles): 0.03
Stratified Drift Area (square miles): 0.00
Stream Length (miles): 0.25
Slope (percent): 0.00
Region: 0

Statistic	Estimated streamflow,	90% Prediction interval	

	ft^3/s	Minimum	Maximum
99-percent duration flow	0.00		
98-percent duration flow	0.00		
95-percent duration flow	0.00		
90-percent duration flow	0.00		
85-percent duration flow	0.00		
80-percent duration flow	0.00		
75-percent duration flow	0.00		
70-percent duration flow	0.01		
60-percent duration flow	0.02		
50-percent duration flow	0.03		
7-day, 2-year low flow	0.00		
7-day, 10-year low flow	0.00		
August median flow	0.00		

U.S. Department of the Interior, U.S. Geological Survey
10 Bearfoot Road
Northborough, MA 01532
(508) 490-5000

Maintainer: webmaster@mass1.er.usgs.gov

ATTACHMENT E

PROJECT PLANS

THIS PLAN IS FOR GENERAL INFORMATION. May Not Be Complete Or Correct In All Details And Should Not Be Used As A Basis Of Land Titles And Measurements Until Otherwise Confirmed.

TRUE NORTH

W.H.–W.A. 31
WILLIAM I. MARLOR ET UX
FEE SEE L–6184

W.H.–W.A. 34
HAROLD C. PYNN ET UX
EASE. SEE L–7518

W.H.–W.A. 34A
EASE. SEE L–9376

LINE 2329

HAVERHILL–NEWBURYPORT LINE

M.–E.E. EASEMENT

N.E.P.Co.

D.H.

LINE 2396

LINE 2377

LINE 2373

MATCH LINE ON T–2

#80 #124 #125 #126 #127 #128

#199 #200 #201

#1 #2 #3

23KV

115KV

BUS

1st Tap

#49S #49 #50G #50 #51 #52 #53 #91 #92 #93

Aerial Grd.Wire

Aerial Grd. Wire

BARN

W.H.–W.A. 33
SEE GEN. 13101
KING STREET 18 SUB, (0018)
H–62971 & D–6236

W.H.–W.A. 33
SEE GEN. 13101A
CLIFTON D. MAYO
FEE D–5362

W.H.–W.A. 32
OWNER UNKNOWN (CURTIS)
CONDEMNATION EASEM, L–7380

30'

75'

100'

LEGEND:

- EXISTING STONE WALL
- EXISTING POLE
- PROPOSED NEW POLE LOCATION
- PROPOSED NEW #2319 LINE
- APPROVED ACCESS ROUTE
- et5-14 FLAGGED WETLANDS (EARTH TECH FALL 2003)
- 100–FOOT WETLAND BUFFER

0 40 100 200 FEET

1"= 40'–0" HORIZONTAL

REVISED DECEMBER 2, 2003

NATIONAL GRID USA SERVICE COMPANY

MASSACHUSETTS ELECTRIC COMPANY

MAP OF
WARD HILL–WEST AMESBURY LINE
(VIA KING STREET SUBSTATION)

SHEET 1 OF 6

SCALE 1"=40' DATE JULY 12, 1962

THIS PLAN IS FOR GENERAL INFORMATION.
May Not Be Complete Or Correct In All Details And Should Not Be Used As A Basis Of Land Titles And Measurements Until Otherwise Confirmed.

T.-A. 91 D-9626-1

W.H.-W.A. 34A
EASE. SEE L-9376

KING STREET W.H.-W.A. 35

W.H.-W.A. 37
THELMA L. RICHARDSON ET AL
FEE SEE L-6391

W.H.-W.A. 38
DALE R. MITCHELL ET UX
EASEM. SEE L-7521

LINE #2373

R/W Markers

#90

D.H.

I.R.

N.E.P.Co.

MATCH LINE ON T-1

#4 #5 #6 #7 #8 #9 #9.1 #91 #92 #93 #202 #203

et 6-1 et 6-2 et 6-3 et 6-4 et 6-5 et 6-6 et 6-7

et 7-1 et 7-2 et 7-3 et 7-4 et 7-5 et 7-6 et 7-7 et 7-8 et 7-9 et 7-10 et 7-11 et 7-12 et 7-13 et 7-14 et 7-15 et 7-16 et 7-17 et 7-18 et 7-19 et 7-20 et 7-21 et 7-21a et 7-21b et 7-21c et 7-21d et 7-21e et 7-21f et 7-21g et 7-22 et 7-23 et 7-24 et 7-25 et 7-26 end

et 8-1 et 8-2 et 8-3 et 8-4 et 8-5 et 8-6

et 10-1 et 10-2 et 10-3 et 10-4

et 9-5 et 9-6 et 9-7

s&s

30' 80'

R/W Markers

BARN

W.H.-W.A.-36
TOM M. FALE et ux
Easem. See L-7519

MATCH LINE ON T-3

LEGEND:

- EXISTING STONE WALL
- EXISTING POLE
- PROPOSED NEW POLE LOCATION
- PROPOSED NEW #2319 LINE
- APPROVED ACCESS ROUTE
- et5-14 FLAGGED WETLANDS (EARTH TECH FALL 2003)
- 100-FOOT WETLAND BUFFER

0 40 100 200 FEET

1"= 40'-0" HORIZONTAL

REVISED DECEMBER 2, 2003

NATIONAL GRID USA SERVICE COMPANY

MASSACHUSETTS ELECTRIC COMPANY

MAP OF
WARD HILL-WEST AMESBURY LINE
(VIA KING STREET SUBSTATION)

SHEET 2 OF 6

SCALE 1"=40' DATE JULY 12, 1962

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Kst.-1-5
W.H.-W.A. 36
TOM M, FALE et. ux
EASE. L-8191
EASE. L-7521

Kst.-1-4
W.H.-W.A. 38
DALE R. MITCHELL
EASE. L-8191
EASE. L-7521

True North

Stone

S.&S.

Black Oak Tree

Kst.-1-7
BEVERLY MOTOR SALES CO. INC. et. ali
Cond. L-8102

MATCH LINE ON T-2

#10 #11 #12 #13 #14

30' 50' 50'

S87°26'E

ACCESS FROM EVERGREEN

et 9-1 et 9-2 et 9-3 et 9-4 et 9-5 et 9-6 et 9-7 et 9-8 et 9-9 et 9-10 et 9-11 et 9-12 et 9-13 end open

et 11-1 et 11-2 et 11-3 et 11-4 et 11-5 et 11-6 et 11-7 et 11-8 et 11-9

et 11a-1 et 11a-2 et 11a-3 et 11a-4 et 11a-5 et 11a-6 et 11a-7 et 11a-8 et 11a-9 et 11a-10

Stk.

MATCH LINE BOTTOM

Kst.-1-5
W.H.-W.A. 36
DAVID. T. DYES et. ux
EASE. L-8193

Kst.-1-5
W.H.-W.A. 36
TOM M, FALE et. ux
EASE. L-8192
EASE. L-7519

GEORGETOWN, MASSACHUSETTS
ESSEX,COUNTY

TOWN OF GROVELAND

MATCH LINE ABOVE

Stk.

#15 #16 #17 #18 #19

D.H.

D.H.

COMMONWEALTH OF MASSACHUSETTS
PARKER RIVER WILD LIFE REFUGE
CRANE POND DIVISION
EASE SEE L-7890

et 12-1 et 12-2 et 12-3 et 12-4 et 12-5 et 12-6 et 12-7 et 12-8 et 12-9 et 12-10 et 12-11 et 12-12 et 12-13 et 12-14 et 12-15 et 12-16 et 12-17 et 12-18 et 12-19

S86°56'E

et 13-1 et 13-2 et 13-3 et 13-4 et 13-5 et 13-6 et 13-7 et 13-8 et 13-9 et 13-10 et 13-11 et 13-12 et 13-13 et 13-14 et 13-15 et 13-16 et 13-17 et 13-18 et 13-19 et 13-20 et 13-21 et 13-22 et 13-23 et 13-24

61

60

59

T.L.B.

GROVELAND
GEORGETOWN

MATCH LINE ON T4

GEORGETOWN, MASSACHUSETTS
ESSEX,COUNTY

LEGEND:

- EXISTING STONE WALL
- EXISTING POLE
- PROPOSED NEW POLE LOCATION
- PROPOSED NEW #2319 LINE
- APPROVED ACCESS ROUTE
- et5-14 FLAGGED WETLANDS (EARTH TECH FALL 2003)
- 100-FOOT WETLAND BUFFER

0 40 100 200 FEET

1"= 40'-0" HORIZONTAL

REVISED DECEMBER 2, 2003

NATIONAL GRID USA SERVICE COMPANY

MASSACHUSETTS ELECTRIC COMPANY

MAP OF
WARD HILL-WEST AMESBURY LINE
(VIA KING STREET SUBSTATION)
SHEET 3 OF 6

SCALE 1"=40' DATE JULY 12, 1962

THIS PLAN IS FOR GENERAL INFORMATION. May Not Be Complete Or Correct In All Details And Should Not Be Used As A Basis Of Land Titles And Measurements Until Otherwise Confirmed.

True North

MATCH LINE ON T-3

MATCH LINE BELOW

#20 #21 #22 #23

et 14-1 et 14-2 et 14-3 et 14-4 et 14-5 et 14-6 et 14-7 et 14-11

et 14a-1 et 14a-2 et 14a-3 et 14a-4 et 14a-5 et 14a-6 et 14a-7

et 15-1 et 15-2 et 15-3 et 15-4 et 15-5 et 15-6 et 15-7

et 16-1 et 16-2 et 16-3 et 16-4 et 16-5 et 16-6 et 16-7 et 16-8 et 16-9 et 16-10 et 16-11 et 16-12 et 16-13 et 16-14

et 16a-1 et 16a-2 et 16a-33 et 16a-4 et 16a-5 et 16a-6 et 16a-7

D.H.

55 54 53 52

Kst. I-9
RALPH A. YEATON et.all
FEE SEE L-7988

MATCH LINE ABOVE

#24 #25 #26 #27 #28

S63°41'E

et 17-1 et 17-2 et 17-3 et 17-4

50' 30' 60'

Kst. I-10
ALFRED H. DOLE
EASE L-8194

et 18-1 et 18-2 et 18-3

MATCH LINE ON T5

LEGEND:

- EXISTING STONE WALL
- EXISTING POLE
- PROPOSED NEW POLE LOCATION
- PROPOSED NEW #2319 LINE
- APPROVED ACCESS ROUTE
- et5-14 FLAGGED WETLANDS (EARTH TECH FALL 2003)
- 100-FOOT WETLAND BUFFER

GEORGETOWN, MASSACHUSETTS
ESSEX,COUNTY

0 40 100 200 FEET

1"= 40'-0" HORIZONTAL

REVISED DECEMBER 2, 2003

NATIONAL GRID USA SERVICE COMPANY

MASSACHUSETTS ELECTRIC COMPANY

MAP OF
WARD HILL-WEST AMESBURY LINE
(VIA KING STREET SUBSTATION)

SHEET 4 OF 6

SCALE 1"=40' DATE JULY 12, 1962

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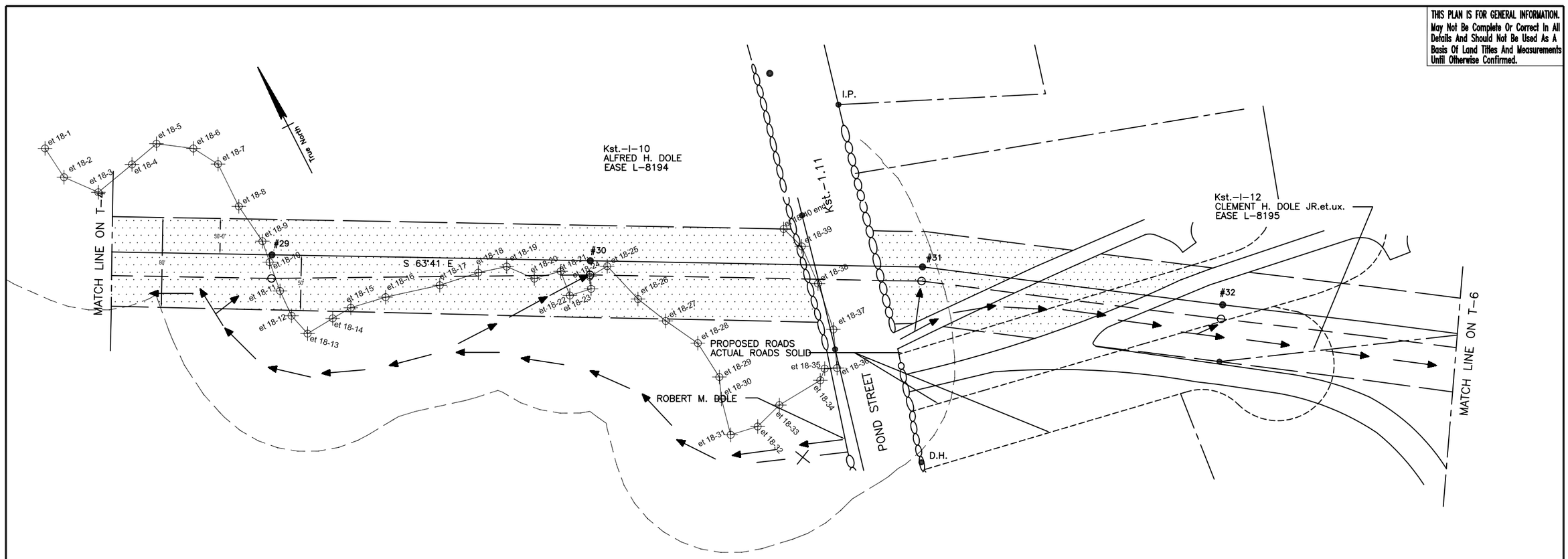

GEORGETOWN, MASSACHUSETTS
ESSEX,COUNTY

LEGEND:

- EXISTING STONE WALL
- EXISTING POLE
- PROPOSED NEW POLE LOCATION
- PROPOSED NEW #2319 LINE
- APPROVED ACCESS ROUTE
- et5-14 FLAGGED WETLANDS (EARTH TECH FALL 2003)
- 100-FOOT WETLAND BUFFER

0 40 100 200 FEET

1"= 40'-0" HORIZONTAL

REVISED DECEMBER 2, 2003

NATIONAL GRID USA SERVICE COMPANY

MASSACHUSETTS ELECTRIC COMPANY

MAP OF

WARD HILL-WEST AMESBURY LINE
(VIA KING STREET SUBSTATION)

SHEET 5 OF 6

SCALE 1"=40' DATE JULY 12, 1962

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LEGEND:

- EXISTING STONE WALL
- EXISTING POLE
- PROPOSED NEW POLE LOCATION
- PROPOSED NEW #2319 LINE
- APPROVED ACCESS ROUTE
- et5-14 — FLAGGED WETLANDS (EARTH TECH FALL 2003)
- 100–FOOT WETLAND BUFFER

True North

MATCH LINE ON T5

#33

#34

#35

#36

#36 1/2

#1

#2

#37

D.H.

D.H.

S58°01'E

UPLAND

et 19-6 end
et 19-5
et 19-4
et 19-3
et 19-2
et 19-1

et 19u-1
et 19u-2
et 19u-3
et 19u-4
et 19u-5
et 19u-6
et 19u-7
et 19u-8
et 19u-9
et 19u-10

Kst.–I–13
ROBERT H. DOLE et.ux.
EASE L–8196

Kst.–I–15
ROBERT M. Copp et.ux.
EASE L–8197

Kst.–I–14
GEORGETOWN SAND & GRAVEL CO. INC
Cond. L–8093

et 19a-1
et 19a-2
et 19a-3
et 19a-4
et 19a-5
et 19a-6
et 19a-7
et 19a-8
et 19a-9
et 19a-10
et 19a-11
et 19a-12
et 19a-13
et 19a-14
et 19a-15
et 19a-16
et 19a-17

et 20-9
et 20-10
et 20-11
et 20-12
et 20-13
et 20-14
et 20-15
et 20-16
et 20-17
et 20-18
et 20-19

Trimming Rights

2373 Line

2329 Line

Kst.–1–16

NEWBURYPORT LINE

HAVERHILL

M.E.L. Co.

GEORGETOWN SAND & GRAVEL COMPANY

12' R.O.W. TO GEORGETOWN SAND & GRAVEL COMPANY

PARKER RIVER

Trimming Rights

ACCESS FROM MILL STREET

MATCH LINE ON T–7395–6

200 FOOT RIVERFRONT AREA

200 FOOT RIVERFRONT AREA

GEORGETOWN, MASSACHUSETTS
ESSEX,COUNTY

0 40 100 200 FEET

1"= 40'–0" HORIZONTAL

REVISED DECEMBER 2, 2003

NATIONAL GRID USA SERVICE COMPANY

MASSACHUSETTS ELECTRIC COMPANY

MAP OF

WARD HILL–WEST AMESBURY LINE
(VIA KING STREET SUBSTATION)
SHEET 6 OF 6

SCALE 1"=40' DATE JULY 12, 1962